
SCHOOL OF MEDICINE

HEALTH SCIENCES LIBRARY
UNIVERSITY OF MARYLAND
BALTIMORE



Digitized by the Internet Archive
in 2016

https://archive.org/details/journalofmaineme4911main

1958 Annual Session
The Samoset, Rockland
June 22, 23, 24

CIRCULATES AFTER MAR 5 '58

UNIVERSITY OF MARYLAND
LIBRARY
Founded 1813
FEB 5 '58
SCHOOL OF MEDICINE

THE JOURNAL
of
The Maine Medical Association

VOLUME 49 JANUARY, 1958 NUMBER 1

CONTENTS

FACIAL INJURIES . . . . . William Carey Meloy, M.D. and Royce Eugene House, M.D., Washington, D.C. 1
PREVENTIVE CARDIOLOGY . . . . . W. Raab, M.D., Burlington, Vt. 6
SEASONAL VARIATIONS IN ELECTROCARDIOGRAPHY . . . . . E. Lepeschkin, M.D., Burlington, Vt. 8
VASSOPRESSOR DRUGS IN SHOCK FOLLOWING MYOCARDIAL INFARCTION . . . . . Manu Chatterjee, M.D., Brunswick, Me. 10
ANGINA PECTORIS OR CARDIAC NEUROSIS? . . . . . Joseph L. Grant, M.D. and William N. Chambers, M.D., Hanover, N.H. 12
THE ROENTGENOLOGICAL DIAGNOSIS OF PLACENTA PRAEVIA . . . . . W. C. MacCarty, Jr., M.D. and R. A. McManus, M.D., Hanover, N.H. 14
SPECIAL ARTICLE —
WHY PHYSICIANS SHOULD NOT BE UNDER SOCIAL SECURITY . Frederick W. Slobe, M.D., Chicago, Ill. 17

Continued on Page V



Stop useless nagging cough

HISTADYL E.C.

(Thenylpyramine Compound E.C., Lilly)

Effective, pleasantly flavored antitussive

ELI LILLY AND COMPANY, INDIANAPOLIS 6, INDIANA, U.S.A. 854001

FOR PERSISTENT INFECTIONS

CHLOROMYCETIN®

COMBATS MOST CLINICALLY IMPORTANT PATHOGENS

Acquired resistance seldom imposes restrictions on antimicrobial therapy when CHLOROMYCETIN (chloramphenicol, Parke-Davis) is selected to combat gram-negative pathogens involving enteric and adjacent structures of the urinary tract. The acknowledged effectiveness with which CHLOROMYCETIN suppresses highly invasive staphylococci[1-9] extends to persistently pathogenic coliforms.[6,10-15] Experience with mixed groups of Proteus species, for example, "...shows chloramphenicol to be the drug of choice against these bacilli...."[15]

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

UNIVERSITY OF MARYLAND
LIBRARY
Founded 1813
SCHOOL OF MEDICINE

REFERENCES:

(1) Petersdorf, R. G.; Bennett, I. L., Jr., & Rose, M. C.: *Bull. Johns Hopkins Hosp.* 100:1, 1957. (2) Yow, E. M.: *GP* 15:102, 1957. (3) Altemeier, W. A., in Welch, H., and Marti-Ibanez, F., ed.: Antibiotics Annual 1956-1957, New York, Medical Encyclopedia, Inc., 1957, p. 629. (4) Kempe, C. H.: *California Med.* 84:242, 1956. (5) Spink, W. W.: *Ann. New York Acad. Sc.* 65:175, 1956. (6) Rantz, L. A., & Rantz, H. H.: *Arch. Int. Med.* 97:694, 1956. (7) Wise, R. I.; Cranny, C., & Spink, W. W.: *Am. J. Med.* 20:176, 1956. (8) Smith, R. T.; Platou, E. S., & Good, R. A.: *Pediatrics* 17:549, 1956. (9) Royer, A.: Scientific Exhibit, 89th Ann. Conv. Canad. M. A., Quebec City, Quebec, June 11-15, 1956. (10) Bennett, I. L., Jr.: *West Virginia M. J.* 53:55, 1957. (11) Altemeier, W. A.: *Postgrad. Med.* 20:319, 1956. (12) Felix, N. S.: *Pediat. Clin. North America* 3:317, 1956. (13) Metzger, W. I., & Jenkins, C. J., Jr.: *Pediatrics* 18:929, 1956. (14) Woolington, S. S.; Adler, S. J., & Bower, A. G., in Welch, H., and Marti-Ibanez, F., ed.: Antibiotics Annual 1956-1957, New York, Medical Encyclopedia, Inc., 1957, p. 365. (15) Waisbren, B. A., & Strelitzer, C. L.: *Arch. Int. Med.* 99:744, 1957.

MEDICAMENTA VERA

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN

50168

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, January, 1958 | Number 8

Facial Injuries

William Carey Meloy, M.D.* and Royce Eugene House, M.D.**

The subject of facial injuries cannot be covered completely in an article of this type, so only the essentials of interest and importance to the general practitioner will be given, with suggestions for specific treatment outlined.

The automotive and machine age has increased the incidence of facial injuries to such an extent that a review of the basic principles of injury repair seems in order. Frequently the patient and the physician regard the injury too lightly, so that it is only after the swelling has subsided and the lacerations healed, that the extent of the injury is realized. By this time, the golden opportunity to achieve the best end result has passed, leaving the patient disfigured and the physician chagrined, if not faced with a law suit.

Much of the difficulty could be avoided if all facial injuries were considered at least potentially serious. Such an evaluation is valid when it is realized that man considers any facial deformity a major social and economic disability.

It is not always possible for a surgeon to repair every injury completely at the first operation. This should be explained to the patient or to the patient's family. In all instances, the patient should be kept under observation until treatment is satisfactorily completed or the patient has been referred to a reparative surgeon.

The subject of facial injuries cannot be covered completely in an article of this type, so only the essentials of interest and importance to the general practitioner will be given, with suggestions for specific treatment outlined.

First, make the patient as comfortable as possible — but beware of sedation until intracranial injury has been evaluated. Next, take time for a complete physical examination co-ordinated with the treatment of shock, if it is present. All too often, the facial injury is so apparent that many other serious injuries are overlooked.

After the general examination is completed, detailed examination of the facial injury is in order and should be accompanied by the most careful cleansing and inspection of all lacerations, as well as removal of all foreign bodies.

Shock and Initial Injury Treatment

At this point, we would like to bring out the fact that — in spite of many textbooks to the contrary — the patient need not be completely free of shock before treatment of the injury is undertaken. The treatment of shock is of paramount importance, but it and the facial injury, may be treated at the same time advantageously. Shock is prolonged when the wound is allowed to remain open and displaced facial fractures obstruct the airway. Therefore, the treatment of the injury itself is an important factor in the treatment of shock. The immediate treatment of the injury lessens pain, prevents further tissue damage, allows better cir-

*M.Sc. Med.; Associate in Surgery & Chief of Plastic Surgery, George Washington University, Washington, D.C.; Senior Consultant in Plastic Surgery, Walter Reed Army Hospital.

**Consultant in Plastic Surgery, Walter Reed Army Hospital; Associate in Plastic Surgery, Garfield Memorial Hospital, Washington, D.C.

culation, in certain injuries corrects the obstructed airway, and greatly improves the patient's psychological state.

The hurried closure of facial wounds with catgut, heavy suture material, skin clips or adhesive tape is to be condemned. Granted, an occasional patient will heal with an excellent scar no matter what is used. However, the vast majority will have poor results unless meticulous care is taken with all details of the repair. Surgical repair should not be attempted until it can be done properly under conditions that will leave a minimal scar.

Palpation of all facial bones is of the utmost importance in all facial injuries. Start by palpating with both hands, using the contralateral side for comparison, the forehead, orbital rims and zygoma. Always include intra-oral palpation of the malar zygomatic area. The usual fracture of the malar complex is readily noted by irregularities of the inferior orbital margin and depression of the malar prominence. Occasionally, when there is marked swelling, this may be difficult. But almost without exception with intra-oral palpation of the maxillary and malar regions, the rough fracture margin, as well as the depression of the malar bone, will be easily noted in spite of swelling. Anesthesia of the lateral surface of the nose and upper lip on the affected side is a most constant finding in fractures involving the infra-orbital margin. Moderate subcutaneous extravasation of blood, especially in the infra-orbital areas, is almost always associated with fractures.

Nasal Injuries

Palpation of the nose will usually reveal a nasal fracture more accurately than will the average x-ray film. If the nose is displaced and movable, the diagnosis is easy. But when the fractures are impacted, a more detailed inspection is needed and should always be carried out regardless of the findings on external palpation. Intranasal inspection with adequate light and clot free nasal passages is a must. When clots are present, they should be removed by suction and bleeding controlled with vaso constrictors on a minimal amount of smooth packing (cotton). Harsh gauze packing, roughly inserted, traumatizes the nasal mucous membranes to a point where the original bleeding area may not be differentiated from those caused by the packing. When the nasal passages are free, look for swelling and deformity of the septum. Usually with displaced nasal fractures, the septal cartilage will be fractured along the maxillary ridge with the base of the septum dislocated toward the depressed side of the nose. Frequently, there will be fractures of the cartilage from the bridge to about midway down the septum. These are noted by irregularities of the septum and thickening around the fracture, due partially to blood accumulation between the two layers of perichondrium. These changes in the septum are of great value in diagnosing nasal fractures in young children before complete bony growth has taken place. The failure to diagnose and correct these fractures early in young children frequently accounts for the septal deformities and nasal obstructions so commonly seen after adult growth.

The proper reduction of a fractured nose is relatively simple. Unfortunately, either through lack of understanding or haste, the procedure is often only partially carried out. After carefully evaluating the problem, children should be given general anesthesia, with an adult patient, the area may be anesthetized by blocking the infra-orbital and supra-orbital nerves. Occasionally, it is necessary to infiltrate along the margin of the nasal bones where the nasal nerve curves up over the bone and along the nasal spine of the maxillae. The nasal mucous membrane is easily anesthetized with 10% cocaine on well squeezed out cotton applicators, remembering that most of the nerve supply to the septum comes in from the sphenoid. A ten minute pack is sufficient for maximum shrinkage and anesthesia of the mucous membrane.

A Bard-Parker knife handle makes an excellent and always available elevator for the reduction of the fractures. The elevator should be laid on the outside of the nose to measure the depth to which it may be safely inserted into the nasal passages. Then using the thumb and forefinger as a guard, the elevator is slipped into the least depressed side and with gentle pressure, the nasal bones are slightly elevated and freed of impaction. The elevator is then inserted into the depressed side, the bone fragments gently elevated, first in the direction of the deviation until impaction is freed, then elevated and moved into the midline. This maneuver not only lifts the depressed side into position but often elevates the septum into position at the same time. Next, the elevator is re-inserted into the deviated side and the nasal fragments are again elevated, this time bringing them to the midline. With the elevator still in place, the nasal fragments may be manipulated with the fingers of the other hand until all irregularities are corrected. Now the septum must be inspected and all irregularities caused by the recent fracture carefully manipulated into position.

The maintenance of the common fractures in position is easily done by carefully packing each side of the nose with vaseline gauze or better with an antibiotic ointment-treated gauze. Meticulous care must be taken to pack both sides evenly or the septum or bony fragments will be redislocated. Tight packing is unnecessary and most uncomfortable. (If bleeding is profuse, the bleeding area may be covered with a strip of gelfoam and the packing applied along side.)

If the septal fractures have been properly reduced, the nose will now stay in position, but if the septum is still deviated, it will act as a spring and gradually move the nose toward the deviated side and no amount of external splinting will correct it — the septum is all important in maintaining a straight nose.

In markedly comminuted nasal fractures, an external splint of dental modeling compound (Kerr wax) may be of some value in maintaining pressure from the outside. Strong external pressure must be avoided because of the danger of interfering with blood supply and resulting tissue necrosis. If marked swelling occurs, it may be relieved by the local injection of hyaluronidase.

Unless the patient has a nasal infection, the packing should be left in for four days; this gives adequate support and causes no damage.

After the packing is removed, the septum should be inspected frequently until union is solid. If displacement takes place, it should be immediately corrected and the nose lightly packed to hold it in place.

With children, these procedures must be carried out most carefully in order to avoid an unsightly obstructed nose after growth takes place.

Mandibular and Maxillary Fractures

Palpation should always accompany inspection of the oral cavity since it often reveals fractures which may easily be overlooked. Any gross displacement of the maxillae or mandible may be easily seen, but transverse fractures of the maxillae in fairly good position may often only be found by grasping the alveolar processes and gently trying to move the upper jaw. When movement is noted, even with good position, the fracture must be cared for or displacement and complications will often result. When the entire maxillary mass has been displaced backward and downward, there will be obstruction of the airway and usually some degree of shock. Its immediate manipulation into normal position, regardless of moderate shock, is imperative and will help to relieve shock. The early reduction of this fracture is relatively easily accomplished before soft tissue swelling has blocked its return. Simply pass a Kelly along the floor of the nasal passage; occasionally one in each nasal passage may be necessary. Then grasp the Kelly in the hand so that the thumb of the same hand can be placed on the hard palate. This gives the operator firm control of the maxillary mass which may now be gently manipulated to free its impaction and then brought forward into position where it can be held by suitable wiring. In cases seen in the first few hours before swelling has become marked, the reduction requires little effort and greatly reduces shock. In those cases where definitive wiring or splinting cannot be done at once, the early reduction of the maxillae will greatly facilitate the final stage of repair by minimizing the soft tissue reaction. The Barton type dressing, formerly advocated, is to be condemned either before or after reduction of those fractures as it compresses the thin delicate maxillary margin and often causes irreparable damage.

Mandibular fractures are usually obvious when displacement is present, but fractures in good position are frequently overlooked unless the jaw is gently manipulated. Whenever there is evidence of trauma to the chin, the presence of condylar fractures must be suspected. If the lower jaw is displaced backward or laterally, the condyles are almost certainly fractured with dislocation. The backward displaced fractures often compound through the external ear canals as well as causing serious airway blockage requiring immediate attention. Here again the immediate reduction of the mandibular dislocation, regardless of whether or not the condylar fragments are reduced, will make the patient much more comfortable and will eliminate, to a large degree, the muscle spasm and contracture which makes later reduction difficult. If possible, secure the mandible to the maxilla in proper occlusion with two intermaxillary wires to maintain occlusion. The condylar fragments should be aligned as soon as possible but will usually require specialized help.

An unsupported mandibular fracture, even when originally in good position, may readily become displaced and compounded. Simple intermaxillary wiring, when possible, or even holding the teeth in approximation with ligatures around the teeth will form the most satisfactory fixation and permit more easy transportation. Complicated cases should be referred for proper care at once. One more word of caution — insist that all patients suspected or proved to have facial or jaw fractures be fed liquids only. Solid foods frequently cause displacement of fractures after proper setting as well as complicating the untreated case.

Facial Lacerations

Facial lacerations, as previously stated, must be regarded seriously even though the average patient, at the time of accident, is inclined to consider the injury lightly. The all too common practice of applying a strong antiseptic to the wound to combat infection, followed by rapid suturing of the skin and the application of a patch dressing with instructions to the patient to return in a few days is only mentioned to condemn the practice because of its frequent bad aftermath.

The proper care of facial lacerations is basically the same as the care of other lacerations with two main exceptions. First, the surgeon is allowed certain freedoms because of the abundant blood supply of the facial tissue. Second, the necessity of meticulous approximation of all tissues in order to produce the most cosmetically and functionally acceptable end result.

Adequate cleansing is a necessity after structural damage has been eliminated and only soft tissues need care. Cleansing should not only rid the wound of possible foreign bodies, pigment, asphalt, grease, etc. but allow an absolute estimate of damage. For relatively small or simple lacerations, the surrounding skin can be cleansed and local anesthesia injected prior to cleansing the laceration itself. For the more extensive wounds, general anesthesia is recommended. For local anesthesia, we use ½% to 1% Procaine or Xylocaine with 1:80000 Adrenalin.

The abundant and efficient circulation of the face gives more latitude to the surgeon in regard to time of initial repair and amount of tissue to be saved. A lapse of approximately eight hours is considered within the limits of safety for definitive repair of wounds of the face. This rule cannot apply to wounds elsewhere.

After thorough cleansing of the wound is performed, copious amounts of saline are used to flush the wound. It is felt that aqueous-zephiran 1.1000 solution will do no harm if used in the wound. Tinctures in the wound must be avoided.

The soft tissues must be approximated in their proper relative position, starting at the bottom of the wound and using the smallest caliber plain or chromic catgut. Severed muscles should be loosely approximated with absorbable suture material, 3-0 or 4-0 chromic catgut preferably. Care must be taken to place the sutures well back from the severed ends to prevent pull through.

After closing the deep layers of the wound, the skin edges are then freshened. The word debridement is avoided insofar as the face is concerned. The skin edges are then undermined for relaxation at the suture line. Bleeders are tied with 5-0 plain catgut. An absorbable suture is then placed in the dermis, back from the skin edge, inverted so that the knot ties below. This brings the dermis together and relieves all tension on the skin edge. This suture should be 4-0 or 5-0 plain catgut. A slight puckering externally results but this is reduced in five to ten days when the fine catgut releases itself by fracture. Nonabsorbable sutures should not be used for this type of stitch because the wound is potentially dirty, and the suture will not release itself as does the catgut. The puckering is overcorrection to approximate dermis and upon the slight contraction of the wound, the wound flattens to a smooth surface instead of a depression. In this type of closure, there is nothing between the skin edges to create foreign body reaction following removal of the nonabsorbable skin sutures.

For skin suturing, one should have very fine needles and a good needle holder which is used only on fine needles. A large needle holder or one that has been sprung by grasping large needles is most aggravating to use and often causes inaccurate approximation. Plastic sutures or braided treated silk in 4, 5, or 6-0 on swedged needles are the most satisfactory sutures we have found.

Meticulous care must be taken of the skin margins, which should never be grasped firmly with tissue forceps because the crushing of the margin frequently so damages the blood supply that small necrotic areas develop with resultant irregularities along the wound scar line. Tissue is best handled by sharp skin hooks or by fine sutures used as retractors to hold the skin in a straight line for easy approximation. Skin sutures themselves should be placed near the wound edge and inserted through the skin equally distant on both sides. Only enough sutures should be used to hold approximation, and most important, only enough tension on the sutures to maintain contact. The skin margins should be wiped clean before each suture is tied. Sutures tied too tightly cut off the marginal blood supply. Most suture scars are caused by too tightly tied sutures and/or a slight retrograde infection. All skin harbors pathogenic organisms even after careful cleansing. Any suture material not treated to eliminate its capillary attraction acts as a wick to carry down those organisms and is frequently responsible for the small suture infections. Therefore, it is important to use in the skin, only the specially produced minimal capillary attracting sutures such as various plastic and treated silk.

Skin sutures, as a rule, should be interrupted, both for more accurate primary closure and because if a single stitch becomes infected or cuts, it may be removed promptly without jeopardizing the entire suture line. Running subcuticular sutures are not recommended unless the surgeon is particularly adept in their use.

Wounds involving compound areas (mucous membrane, muscle and skin such as lips, eyelids and skin of the nose) should be closed in the same manner beginning from within out. Be miserly with mucous membrane; save even discolored or purplish mucous membrane. It should be approximated loosely with 3-0 or 4-0 chromic catgut. Always close the mucous membrane in lacerated lips to prevent hard scar formation due to delayed healing. Begin at key points for a guide, that is, angle of the mouth, junction of wet mucous membrane to dry vermilion, vermilion border to skin, etc. The muscle should be approximated loosely with absorbable suture material, 3-0 or 4-0 chromic. This is to prevent lack of continuity of muscle as well as closing dead space. The skin can then be closed in the manner described previously.

Do not try to develop flaps or extensive types of procedures at the initial closure. Too often the uninitiated can do more harm than good through enthusiasm, and available tissue which might best be utilized at a later date is lost. If losses of skin and/or subcutaneous tissue are sufficient to make necessary the use of flaps, then simple suture of the skin to mucous membrane should be accomplished. This allows for healing of the wound with little delay and early softening for definitive surgery. Four to six months or longer should elapse prior to definitive repair.

Drains

When the wound has been closed properly from the bottom up, it is rarely necessary for drainage. If a drain is necessary because of uncontrolled oozing or suspected infection, it should be placed in the most dependent portion of the wound and removed as soon as possible. Many clean wounds have become infected because drains were left in too long.

Severed Facial Nerve

When the facial nerve has been severed, any amount of time necessary to find the severed ends is well spent for this is the golden opportunity for satisfactory repair. When possible, the nerve should be sutured end to end with 6-0 silk. The 6-0 eye Deknatel suture and swedged on needle is ideal for this procedure. When there has been such a wide avulsion of tissue that primary repair of the nerve is impossible, the placing of a large caliber silk ligature around the ends of the nerve which is then left in place, is of great value in locating the nerve ends for subsequent nerve grafting.

Severed Parotid Ducts

When lacerations are in the vicinity of the parotid duct, careful examination should be carried out. Using a small polyethylene tube, the cut ends of the orifice of the duct can be probed. The course of the duct can be marked on the surface of the cheek by a line drawn from the inferior border of the external auditory meatus to a point midway between the vermilion of the lip and the inferior border of the ala of the nose. The middle third of this line overlies the duct. With the polyethylene tube in the distal portion of the duct, the proximal portion is located and the tube threaded into the duct. A few (six to eight) interrupted 6-0 silk sutures can be used to close the duct.

Following closure of the wound and dressing, the polyethylene tube can be removed. Some prefer to leave the tube in place for four to six days by tacking it to the mucous membrane inside the cheek.

Other methods can be used, but it is felt that this method gives a satisfactory result. Stimulating activity (fruit juices, etc.) to the gland should be instituted.

Lacerations of the Ear

A short comment on lacerations involving the ear is in order. After thorough cleansing, the skin edges are undermined slightly and the cartilage is approximated with 5-0 plain catgut with the knot tied posteriorly. The skin is sutured by means of 5-0 nylon. The ear is dressed with damp cotton and compression bandage (head). This holds the ear in conformity in a type of cast.

If the ear is partially to almost completely avulsed, all is to be gained if careful replacement is done. A bandage similar to the one described above should be applied.

Dressings

Proper dressing of all wounds is important. Wherever possible, a compression-type bandage should be applied, being careful that the pressure is even over the entire area. This largely prevents oozing and swelling of the tissues and the resultant tension on sutures. When swelling is expected in any marked degree, we have found the local injection of hyaluronidase (Wydase)® is of great value to reduce or minimize this complication.

An elastic compression bandage may be made in many ways but we have found sponge rubber or well fluffed gauze secured with an elastic bandage or elastic adhesive tape to be satisfactory in most instances. When it is important to restrict movement, the first layer may be made of cotton wet with 1.1000 aqueous zephiran solution or saline which is then squeezed out forming a relatively firm base for the pressure dressing. After drying, it forms a cast type splint.

Wounds about the mouth, nares and eyes are often better cared for without dressings. In these instances, frequent cleansing and the application of vaseline or antibiotic ointments is all that is necessary, and patient comfort is increased.

Unless there is direct indication, the first dressing should not be changed for several days. After this, the dressing should be removed and sutures carefully checked; remove any questionable skin sutures immediately. As soon as a few sutures have been removed, support the scar with collodion strips or adhesive tape. This will prevent any tendency for the wound to stretch with resultant stimulation of fibrous tissue growth. A much finer scar will usually result if the new scar is supported for twenty-one days while it is reaching its full strength.

Massage

Harm may be done by early massage for it probably stimulates fibrous growth. Later, three to four months post trauma, if massage is indicated, the patient should be carefully instructed in how it should be done.

Scars

In some instances, even after the most careful closure of a wound, a reddening of the scar may be observed. Palpation of the scar will reveal a thickening of the scar itself which means that fibrous cell division is taking place beyond the normal period and will result in a hypertrophied or keloid scar. Of the many methods of treating this complication, we have found two which work well in most instances.

1. Immediate radiation given by a competent roentgenologist.
2. The injection of a mixture of Kutapressin (a liver derivative) and Hyaluronidase (Wydase) into the area two or three times a week for two weeks.

Summary

The preceding article attempts to outline for the general practitioner the procedures for care of facial injuries. The critical time element, diagnosis by palpation, meticulous cleansing and gentle handling of tissue, as well as early reduction of fractures, have been stressed to avoid later disfiguration with its serious consequences for both the patient and physician.

2019 R Street, N.W., Washington 9, D.C.

Preventive Cardiology

W. Raab, M.D.*

President Eisenhower's myocardial infarction in 1955, and Dr. Paul D. White's vigorous campaign for intensified basic and epidemiological research in the field of the degenerative heart diseases have provoked a tremendous upsurge of interest in these conditions. . .

The term "Preventive Cardiology" is intended to designate a subsection of the relatively young field of "Preventive Medicine." Its introduction appears justified in view of a growing insight into the basic pathogenic mechanisms of heart disease and in consideration of the resulting development of prophylactic possibilities as a major public health issue. It is not so much the prevention of secondary cardiac involvement in infectious diseases, such as rheumatic fever and syphilis, that we have in mind, nor the possible avoidance of congenital cardiac malformations by protecting the expectant mothers from virus infections and toxic influences, but rather attempts at prevention of the numerically and socially most important groups, the so-called degenerative heart diseases. These include chiefly the myocardial lesions, caused by insidious metabolic biochemical injury, by coronary sclerosis and by arterial hypertension, although the latter is being generally much over-rated regarding its capacity to damage the heart muscle directly. The outstanding clinical manifestations of degenerative heart disease are angina pectoris, arrhythmias, cardiac hypertrophy, myocardial infarction and acute chronic congestive heart failure.

Clinically it is not possible, as a rule, to distinguish between those diffuse chemical, structural and functional lesions of the heart muscle which are caused exclusively by coronary sclerotic ischemia, and those resulting from an exaggerated activity of the cardiac oxygen-wasting and hypoxia-producing sympathomimetic catechol amines: norepinephrine (discharged at the sympathetic nerve endings) and epinephrine (discharged by the adrenal medulla into the circulating blood). However, both pathogenic alternatives have one feature in common, namely, a discrepancy between the amount of available oxygen on the one hand, and the oxygen requirements of oxydative energy production on the other.[1] In many instances both mechanisms may be assumed to co-exist and overlap.

At the moment attention is being focused largely on the problem of atherosclerosis with specific consideration of coronary arteriosclerosis. Current research revolves around qualitative and quantitative aspects of the lipid substances in the blood which are ultimately deposited in the arterial intima, while hardly any thought is directed toward those primary metabolic and structural alterations of the intima which presumably constitute a prerequisite for its secondary infiltration with blood-borne lipids. Yet, for many years, there has been growing evidence that here too, like in the heart muscle, local metabolic influences of nervous (neurohormonal) and hormonal origin are significantly at work. Sympathomimetic catechol amines accelerate and intensify, gonadal steroids reduce the intimal lipid deposition.

Whatever the basic mechanism underlying the common features of degenerative cardiovascular pathology may be, they are becoming more and more widely recognized as side products of human civilization or rather of civilization-induced prosperity and "soft living." Their maximal and constantly increasing occurrence in the United States of America is not a fortuitous one. Three characteristically American features appear to be jointly contributing to the virtually pandemic affliction of the American people with degenerative cardiovascular abnormalities: 1. overeating, particularly with regard to cholesterol and fats, 2. physical inertia, 3. mental tensions, anxieties and frustrations, inherent in an acquisitive, highly competitive society.

As far as the role of an excessive intake of cholesterol and of animal fats is concerned, the writer[2] has persistently warned against it during the past 25 years after having carried out a world-wide inquiry regarding the apparent relation between dietary fat consumption and the occurrence of arteriosclerosis in various nations and social strata. These preliminary investigations have been recently resumed on a large scale under the guidance of Dr. Ancel Keys with statistically well supported confirmatory results.[3]

Physical Inactivity

Physical inactivity, the reward of universal motorization and automation, tends to upset the homeostatic balance between oxygen-wasting, potentially hypoxia-producing sympathetic action on the heart on the one

*University of Vermont College of Medicine, Burlington, Vermont.

hand, and oxygen-preserving, efficiency-increasing vagal counteraction on the other. A certain minimum of habitual physical activity appears to be indispensible for the maintenance of adequate vagal counterregulation against a detrimental sympathetic preponderance. The latter is prone to induce myocardial hypoxia, energetic inefficiency and finally cardiac failure, notably in the presence of coronary sclerotic myocardial ischemia. J. N. Morris' extensive statistics among English workers[4] have clearly demonstrated a reversed proportion between the amount of physical exertion, connected with various professional activities, and the incidence of cardiac deaths in the respective occupational groups: Hairdressers and office clerks are on the top of the list, heavy industry and agricultural laborers at the bottom. Similar observations have recently been made in California.[5] Even a few weeks of enforced bed rest proved highly injurious to cardiac efficiency in otherwise healthy individuals in association with a rapidly developing sympathetic preponderance.[6]

Interestingly, the cardiac mortality in Denmark and Holland is distinctly lower than in the United States despite an about equally high fat consumption.[7] However the Danes and Dutch are passionate cyclists and walkers, whereas most Americans confine their physical activities to turning ignition keys and pushing buttons. Their sports enthusiasm is largely displayed in comfortable, upholstered easy chairs in front of television sets.

Finally, the prevailing conformist philosophy of competitive "success" and of material gains as representing the most important goals in life, exposes many Americans to intensive mental strains as well as to all kinds of frustrations and, once material success is attained, to aimless boredom. These emotional hypothalamic patterns are accompanied by stimulating effects on the sympathetic nervous system, and thus constitute a potential cause of abnormal peripheral vasoconstriction (neurogenic hypertension), acute catechol amine-induced myocardial hypoxia (angina pectoris), aggravation of vascular lipid deposition (coronary sclerosis), and an ultimate decline of myocardial energetic efficiency (congestive heart failure). Excessive tobacco smoking provides an additional sympathetic ganglionic stimulus and can be assumed likewise to contribute its share to cardiovascular degeneration and death.[8]

President Eisenhower's myocardial infarction in 1955, and Dr. Paul D. White's[9] vigorous campaign for intensified basic and epidemiological research in the field of the degenerative heart diseases have provoked a tremendous upsurge of interest in these conditions with generous financial support from federal and private sources. Some of the concepts which have been outlined above (for brevity's sake in a deliberately dogmatic and simplified manner) are at present under systematic investigation. It is being keenly realized by all those conversant with the complex problems in question, that only laborious basic studies by effectively organized and intimately collaborating teams of theoretical and clinical investigators in well equipped clinical research institutions can lead to the development of rational, practically useful preventive medical measures.

Whether it will ever be possible to reconvert large numbers of supercivilized human beings to a greater abstinence from heavy cream, gravy and cigarettes, and to the use of their own legs for locomotion, seems questionable.

Whether it will ever be possible to reconvert large numbers of supercivilized human beings to a greater abstinence from heavy cream, gravy and cigarettes, and to the use of their own legs for locomotion, seems questionable. It will depend not only on the attitude of the individuals directly concerned, but also on that of certain industries which may deem their interests in jeopardy by such objectionable ideas.

On a small scale, physical, especially cardiovascular, reconditioning of sedentary middle-aged persons has been successfully undertaken during recent years at Urbana, Illinois,[10] at Ohlstadt in the Bavarian Alps, in West Berlin, in Toronto, at the Valley Forge Heart Institute, at Aspen, Colorado, etc. by means of organized gymnastics and outdoor sports. Physicians and physical educators are jointly engaged in these projects. It will be necessary, however, to develop more reliable and convenient medical methods for the meticulous evaluation of exercise tolerance and for constant close supervision of all individuals exposed to reconditioning programs. Otherwise, considerable risks of harmful over-exertion will have to be faced. Studies of this kind are at present under way at the University of Vermont under the sponsorship of the United States Public Health Service.

The most difficult, not to say the most Utopian, reform plans would have to be aimed at a social atmosphere in which widespread take-it-easyism constitutes perhaps a greater menace than other -isms, and in which the proverbial 4 freedoms may in the future fall victim to the dangerous indulgence in a 5th freedom, the freedom from effort, physical as well as mental. It is to be hoped, however, that at least our public education system will gradually emerge from its present state of lethargy. Very much more emphasis must be placed on rigidly disciplined physical training,[11] regardless of the easy excuse that such practices would be "undemocratic," and on a willingness to forego superfluous luxuries and conveniences. These things are necessary to develop the foundations for a mature and meaningful outlook on a life of hard-won, sound ideal values as perhaps the most fundamental feature of "Preventive Cardiology."

Continued on page 9

Seasonal Variations In Electrocardiography

By E. Lepeschkin, M.D.*

. . . recognition of the seasonal variations in the demand for electrocardiograms will enable a more judicious distribution of the working time and personnel in electrocardiographic laboratories.

During the last few years a peculiar trend in the daily number of electrocardiograms taken at the DeGoesbriand Memorial Hospital every day was observed. It appeared that the Electrocardiographic Laboratory of the Hospital was much busier in winter than it was in summer. To determine the cause of this peculiarity, the number of electrocardiograms taken each month during the past six years was tabulated together with the number of patients admitted to the Hospital for the same periods.

It can be seen from Table I that the number of electrocardiograms taken each month shows a definite maximum in the months of January, February, March and April and a minimum in July. This is true also when this number is expressed as a percentage of the total number of patients admitted during this particular month. This percentage is 5.4% in July and 8.9% in April. Taking into consideration the small variability of this percentage between two successive months, this difference must be considered as significant. The average value for the percentage (7.5%) is higher than the corresponding average (5.83%) found at the New Haven Hospital in 1942,[1] but this is comprehensible in view of the continuing increase in the use of the electrocardiographic method.

At the DeGoesbriand Memorial Hospital electrocardiograms are not taken routinely but only if manifestations of heart disease are found or suspected. Such manifestations as coronary thrombosis and acute heart failure in arteriosclerotic and rheumatic heart disease were shown to have a distinct seasonal variability in their incidence, having a maximum in January, corresponding to a minimum mean temperature, and a minimum in July, corresponding to a maximum mean temperature.[2] This variability in the incidence of some of the manifestation of heart disease explains very well the general trend in the number of electrocardiograms taken. The only peculiarity in the latter that must still be explained is the occurrence of the maximum in April instead of in January.

It is interesting that while the total incidence of coronary thrombosis all over the United States was highest in January, the incidence in Boston, which is nearest to Burlington of all the cities studied in the survey, was also highest in April.[2] Other observers situated in a maritime climate have also found a higher incidence of coronary thrombosis in March-April than in January.[3-4] One of the reasons for this peculiarity could be that the lowest mean temperature may occur not in January but in February; this was actually observed in Burlington[7] during the period of observation (Table I). Still, the difference between February and April cannot be explained in this way. One possibility is that the incidence of coronary thrombosis and heart failure depends not only upon the absolute temperature, but also on the abruptness of the temperature changes.[4-5] In Burlington the daily temperature variations (Table I) were greater in April than in any of the other colder months.

From a practical point of view, recognition of the seasonal variations in the incidence of coronary thrombosis and heart failure in a given locality may enable the cardiac patient to reduce the seriousness of some of these incidents by avoiding strenuous activity, excitement, etc., and by staying within reach of his physician, during the months of highest incidence. On the other hand, recognition of the seasonal variations in the demand for electrocardiograms will enable a more judicious distribution of the working time and personnel in electrocardiographic laboratories.

Summary

The demand for electrocardiograms in a northern New England community shows a definite maximum in April and a minimum in July. This incidence is similar to that previously found for coronary occlusion and acute heart failure, except that the maximum occurs later. This peculiarity is explained by local climatologic factors.

*From the DeGoesbriand Memorial Hospital and the Division of Experimental Medicine, University of Vermont College of Medicine, Burlington, Vermont.

This work was done during the tenure of an Established Investigatorship of the American Heart Association.

TABLE I

Number of Electrocardiograms Taken Each Month during 1950-1955, in Relation to the Monthly Mean Temperature and Temperature Variations during the Same Period

	Jan.	Feb.	March	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total ECG	602	590	593	593	531	501	486	511	588	584	572	571
ECG as % of admissions	8.7	8.7	8.8	8.9	8.5	6.3	5.4	5.9	6.9	6.9	7.4	7.2
Mean Temp.	23.5	20.3	27.9	43.4	55.5	65.6	71.8	67.9	58.9	50.0	36.4	26.2
Mean daily Temp. Variations	17.9	16.1	15.6	18.3	22.2	21.4	22.9	21.7	19.4	19.9	14.1	14.7

References

1. Geiger, A. J., Calabresi, M. and Blaney, L. F.: A Justification for the Increasing Use of Electrocardiography in Hospital Practice, Am.J.M.Sc. *203*: 219, 1942.
2. Bean, W. B. and Mills, C. A., Coronary Occlusion, Heart Failure, and Environmental Temperatures, Am.Heart J. *16*: 701, 1938.
3. Hoxie, H. J., Seasonal Incidence of Coronary Occlusion in a Mild Climate. A Study Based Upon Autopsy Material, Am.Heart J. *19*: 475, 1940.
4. Tixier, L. and Roy A., Note preliminaire sur la meteoropathologie coronarienne, Arch.Mal.Coeur *44*: 839, 1951.
5. Stival, L. and Zanchi, M., La mortalita per infarto miocardico in rapporto al clima nella citta di Milano. Folia Cardiol. *14*: 581, 1955.
6. Ströder, U., Becker, F. and Haas, G., Ueber die Abhaengigkeit des Herzinfarkteintritts vom Wettergeschehen, Klin. Wchschr. *29*: 312, 1951.
7. U.S. Department of Commerce, Weather Bureau, Local Climatological Summary with Comparative Data, Burlington, Vermont, 1950-1955, Chattanooga, Tenn.

PREVENTIVE CARDIOLOGY — *Continued from page 7*

References

1. Raab, W.: The adrenergic-cholinergic control of cardiac metabolism and function, Adv. in Cardiol. *1*: 65-152, S. Karger, Basel and New York, 1956.
2. Raab, W.: Dietary factors in the origin of arteriosclerosis and hypertension, Mediz. Klinik. *28*: 487-490, 521-525, 1932.
3. Keys, A.: Coronary heart disease and the mode of life, modern concepts of cardiovascular disease (American Heart Association) *25*: 387, 1956.
4. Morris, J. W., Heady, J. A., Raffle, P. A. B., Roberts, C. G. and Parks, J. W.: Coronary heart disease and physical activity of work, Lancet 1053 and 1111, 1953.
5. Luongo, E. P.: Paper in press.
6. Taylor, H. L., Henschel, A., Brozek, J. and Keys, A.: Effects of bed rest on cardiovascular function and work performance, J. Applied Physiol. *2*: 223, 1949.
7. Dairy Council Digest: 28, No. 1, September 1956.
8. Hammond, E. C. and Horn, D.: The relationship between human smoking habits and death rates, J. Am. Ass'n. *155*: 1316, 1954.
9. (a) White, P. D.; Heart disease, a world problem, Bull. New York Acad. Med. p. 431, July 1940.
   (b) Gertler, M. M., White, P. D. et al., Coronary heart disease in young adults, Commonwealth fund, Harvard University Press, Cambridge, Massachusetts, 1954.
10. Kraus, H., Prudden, B. and Hirschhorn, K.: Role of inactivity in the production of disease—hypokinetic disease, J. Am. Geriatrics Soc. *4*: 463, 1956.
11. Cureton, Th. K.: Preservation of the middle-aged man, J. Phys. Educ. *52*: 27, 1954.

Vassopressor Drugs In Shock Following Myocardial Infarction

MANU CHATTERJEE, M.D.

Experience with the use of pressor amines has shown a spectacular lack of success in patients in profound clinical shock following myocardial infarction.

Shock complicating myocardial infarction is correlated with a fatality rate variously reported from 40-80 per cent.[1] Recently, considerable enthusiasm has arisen over the use of various pressor substances in the treatment of this disorder. Considering the fact that a fall in blood pressure, as measured in the arm, is an invariable finding, this might not seem unreasonable. Recent personal experience with the use of these drugs has shown a spectacular lack of success in patients in profound clinical shock following myocardial infarction. A more careful look into the rationale for the use of pressor substances in this most difficult problem is indicated.

There is no universal agreement as to the definition of shock. It is acceptable to consider shock as a form of acute circulatory collapse associated with weakness, cold moist extremities, a weak rapid pulse and a fall in blood pressure. It is most difficult to assign a numerical value to the critical point of blood pressure, however, the figure of 80 systolic, is most often quoted in the literature. The immediate consequence is tissue anoxemia — most affected are, the central nervous system, the kidneys and the heart itself. If the shock state continues death rapidly ensues. Logically, therefore, oxygenation of the vital organs is the immediate goal of therapeutic measures.

Neosynephrine® (phenylephrine) and Levophed® (l-norepinephrine) primarily cause an increase in systolic and diastolic pressure by increasing peripheral resistance.[2] It is this property that has prompted the use of these drugs for patients in peripheral vascular collapse from any cause. They also cause an increase in central venous pressure, probably by decreasing peripheral blood volume. Cardiac output is increased. Whether this is a primary effect on myocardial contractility (inotropic effect) or whether this is secondary to an increase in central venous pressure, has not yet been satisfactorily clarified. This is a point of considerable importance. Patients in shock following myocardial infarction most frequently have an increase in left atrial pressure due to a compromised left ventricular output. In contrast is shock due to hemorrhage, for example, where left atrial pressure is reduced. There is good evidence that a new pressor amine, Metaraminol,® (Aramine®) has both a peripheral as well as a direct effect on myocardial contractility.[3] This drug seems to increase stroke output independent of changes in central venous pressure. It appears to be a primary inotropic effect. This occurs however later in time than its peripheral vaso constricting properties. Actually when the *sole* effect of a drug is to increase peripheral constriction, the cardiac output is not increased and may even fall while cardiac work increases. (In the intact animal this isolated effect probably rarely occurs due to many compensating mechanisms.[2])

These pressor amines have been used extensively in the treatment of cardiogenic shock. The exact extent to which mortality figures have been altered is hard to assess. The chief reason is the lack of uniformity in the criteria used for shock, as indicated by the large differences in the reported incidence of shock following myocardial infarction. For example, in those series reporting a high incidence of associated shock, the subsequent mortality rate is low (40%); whereas in series reporting a low incidence of shock the mortality rate is high (80%). This large discrepancy can be explained by the fact that in the first case less rigid criteria were used for shock and therefore a more favorable prognosis is reported and vice versa.

Griffith et al[4] reported an overall mortality rate in untreated patients in shock of 80%, (128 deaths out of a total of 161 patients). In a subsequent series treated with pressor amines as well as other measures, including intra-arterial transfusions, there was a 48% mortality. Sampson et al[5] reported a 47% mortality rate of patients in shock treated with norepinephrine (14 deaths out of 30 patients). Both stress the necessity of early treatment. In patients who have been in shock for more than three hours the mortality rate is once more, in Griffith's series, 75%. Neither report gives any detailed analysis of the condition of the patients, such as sweating, pallor, etc., except to imply that the blood pressure recordings were in the shock range (80 or below). The possibility must be entertained that these patients treated within the first

three hours of collapse might have spontaneously recovered without the specific supportive measures employed.

Gunton and Associates[6] using an ear oximeter and the Hamilton dye (T-1824) dilution methods measured cardiac output in patients following myocardial infarction of various degrees of severity. They found that a severe reduction in cardiac output is the most outstanding hemodynamic disturbance in patients in cardiogenic shock. By their method they found the cardiac index (cardiac output per square meter body surface) in a group of controls to have a mean value of 3.54. In patients with myocardial infarction without shock the mean value as 3.0; in infarction with a fall in blood pressure without clinical shock, 2.6; in infarction with a fall in blood pressure and clinical shock the mean cardiac index was 1.5 L/min/M2. All but the last category had a favorable prognosis! These data clearly indicate that when blood pressure alone is used to define the shock state in the absence of other clinical signs of collapse, one can expect a favorable outcome. Any study which does not make this distinction will err in favor of whatever therapeutic agent is used. They further studied 42 patients with severe shock following coronary occlusion and they conclude that "Intra-arterial transfusion and vasopressor drugs have not effected any reduction in mortality when comparison is made with a concurrent series treated routinely without any special measures to restore blood pressure." This has similarly been reported by Calenda et al.[7]

There is considerable quantitative myocardial damage following coronary occlusion with concomitant collapse. Theoretically, it seems reasonable therefore to increase coronary, renal and central nervous system flow in the most efficient manner possible as regards the work of the heart itself. Heart work is the product of its stroke volume and the mean pressure in the root of the aorta for any given unit of time. An increase in either increases coronary flow. An increase in mean pressure in the aorta is most readily accomplished by an increase in peripheral resistance. An increase in stroke volume may be due to an increase in ventricular filling pressure or by an increase in the contractile force of myocardial muscle. For any increase in work (stroke volume x mean aortic pressure) at a constant heart rate, the metabolism of heart muscle is greater and the limits of its performance reached earlier following a rise in arterial pressure than with an increase in cardiac output. In other words, the percent efficiency of the heart for any increment of work is greater following an increase in output, than it is following an increase in mean arterial pressure.[8] This is an oversimplification of the concept of heart work and efficiency. Nevertheless an increase in coronary perfusion by increasing cardiac output would seem hemodynamically more desirable.

Oxygenation of the vital organs is the immediate goal of therapeutic measures.

The available data are not consonant with the concept that an increase in peripheral resistance is the most desirable objective in treating patients in cardiogenic shock either from theoretical considerations of myocardial efficiency or from experimental observations. Clinical observations on the use of pressor substances are unconvincing. It is, in fact, well within the realm of possibility that pressor amines may be harmful in the treatment of cardiogenic shock. Possibly attention should be directed toward primarily increasing myocardial contractility rather than peripheral resistance.

Obviously little can be accomplished if there is insufficient functional tissue remaining. This has prompted the concept of using a cardiac by-pass until the myocardium may regain enough function to support life.[9]

References

1. Friedberg, C. K., Diseases of the Heart. Second Edition.
2. Goodman, L. S., Gilman, A.,: The Pharmacological Basis of Therapeutics. Second Edition.
3. Sarnoff, S. J., Case, R. B., Berglund, E., Sarnoff, L. C.,: V. The Circulatory Effects of Aramine; Mechanism of Action Circulation, 10:84, 1954.
4. Griffith, G. C., Wallace, W. B., Cochran B., Nerlich, W. E., and Frasher, W. G.,: The Treatment of Shock Associated with Myocardial Infarction. Circulation, 9:527, 1954.
5. Sampson, J. J., Zipser, A.,: Norepinephrine in Shock following Myocardial Infarction. Circulation, 9:38, 1954.
6. Gunton, R. W., Paul, W., Woolf, C. R.,: Observations on the Mechanism and Treatment of Shock following Myocardial Infarction. Clinical Research Proceedings, 5:164, April, 1957.
7. Calenda, D. G., Uriccho, J. F., and Friedman, L. M.,: The Management of the Shock in Myocardial Infarction with 1-Norephinephrine. Am. J. M. Sc, 226:399, 1953.
8. Glasser, O.,: Medical Physics, Volume II, 1950.
9. Personal Communication: Sancetta, S. M., M.D.

11 McKeen Street, Brunswick

Angina Pectoris Or Cardiac Neurosis?

Joseph L. Grant, M.D.* and William N. Chambers, M.D.**

The patient with coronary artery disease may develop atypical pain patterns and other non-cardiac symptoms which lead to confusion in the diagnosis of angina pectoris. It is important for the physician to recognize that many of these complaints represent the patient's reaction to his disease.

Angina pectoris is easily recognized in most patients. However, there are a significant number in whom the diagnosis presents a major problem because of lack of classical symptoms. The pain may be atypical and the relation to effort not definite. Even more difficulty arises when patients with angina pectoris have concomitant anxiety neurosis and complain of bizarre symptoms which overshadow those of the organic heart disease.

Recently we have studied two patients who illustrate these points.

Case Reports

I. G. G., a 36-year-old, machine-shop worker, developed lower anterior chest pain in the summer of 1952. This pain was brought on by walking uphill, radiated from the chest to the left arm, and was promptly relieved by rest and nitroglycerin. His doctor diagnosed angina pectoris. Six months later he was seen at the Veterans Hospital, White River Junction, where the examining doctor concurred in the diagnosis and treatment, felt little would be gained from hospitalization, and sent the patient home. The electrocardiogram and chest film were within normal limits. Several months later he returned because of continued symptoms, and this time was admitted. He described the pains as sharp, jabbing sensations radiating from the sternum to the left chest, relieved in a few minutes by nitroglycerin. He also had dull epigastric pressure which radiated to the back on the least exertion. He complained of headaches, backaches, sinking feelings, extreme fatigue, insomnia and shooting pains in the legs. His pains were so severe he could not bend over to lift his baby from the crib. They often awakened him from sleep, and occurred commonly after meals. Even the thought of sexual intercourse precipitated pain.

Physical examination was again negative, as were extensive laboratory and x-ray investigations. Electrocardiograms, including single and double exercise tolerance tests, were considered within normal limits. After thorough study the ward physician reviewed the problem with the attending and consulting doctors, including the internist who had previously diagnosed angina pectoris. All now agreed, in the light of the multitude of complaints, the lack of clear relation of the pain to effort, and the absence of objective signs of heart disease, that the patient did not have angina pectoris, but was suffering from cardiac neurosis of the conversion type. He was assured that his heart was sound. However, the symptoms did not improve, but grew worse and more varied. In addition to the chest pain, he developed right occipital headaches, backaches, and severe aching pain in all four extremities. After visiting numerous physicians, he returned to the Veterans Hospital. Thorough examination and work-up were repeated. He was again seen by several consultants. The diagnosis of cardiac neurosis was again made. The patient did not accept reassurance about his heart and was discharged unimproved. Three months later he died suddenly at home. Autopsy revealed severe atherosclerotic changes of the coronary arteries, diffuse myocardial fibrosis; old and recent myocardial infarcts.

II. For eleven years C. P., an energetic 55-year-old painting contractor, known to some as "the Paul Bunyan of the North Country," had epigastric and subxiphoid discomfort on exertion. It was relieved by resting and belching. There were long periods when he enjoyed freedom from pain except directly after meals. During this time he continued to work hard, and for relaxation went on long and arduous hunting and fishing trips. Among his companions on these trips were two physicians, one of whom has described his attacks: "Occasionally while portaging a canoe or carrying a 90 pound pack uphill, he would have a sudden attack of

*Chief, Medical Service, Veterans Administration Hospital, White River Junction, Vermont, Instructor in Medicine, Dartmouth Medical School, Hanover, New Hampshire.

**Staff Member in Internal Medicine, Hitchcock Clinic and Mary Hitchcock Memorial Hospital, Hanover, New Hampshire; Assistant Professor in Medicine, Dartmouth Medical School, Hanover, New Hampshire; Attending in Internal Medicine, Veterans Administration Hospital, White River Junction, Vermont.

epigastric or substernal pain. He would drop whatever he was carrying, clutch his chest, and fall to the ground. His color was ashen. He would sweat profusely and gasp several times, but within two or three minutes he would be on his feet again, and throughout the rest of the day would outdo anyone else in the party in the most extreme physical activities." As the physician said, "I'd swear he had had a coronary if I hadn't seen him get up immediately after the attack and continue throughout the rest of the day without the slightest discomfort." In addition to chest pain, the patient complained of pain and numbness of the feet, cramping right upper abdominal discomfort, aching in the back of the neck, lightheadedness, intermittent diarrhea, excessive lacrimation, and a constant need to swallow saliva.

Physical examination and electrocardiogram were normal in 1951. The consultants who saw him at that time were unwilling to make the diagnosis of angina pectoris. Hiatus hernia and gallbladder disease were suspected, but x-rays were negative. However, the pains persisted, and three years later he was again carefully studied at the Hitchcock Hospital. This time the electrocardiograms showed lower voltage and diffuse T-wave inversion. A diagnosis of arteriosclerotic heart disease with angina pectoris was made. Six months later he had an episode of congestive heart failure from which he made a poor recovery. When seen in consultation he was pale, the voice was hoarse, the skin dry, the face puffy, and the pulse slow. Myxedema was suspected, and confirmed by the findings of a BMR of minus 25 and radioiodine uptake of 5%. It was felt that the previous electrocardiographic changes could have been due to myxedema heart. The diagnosis of arteriosclerotic heart disease was now questioned. He was started cautiously on 15 mg. of dessicated thyroid daily, although the risk involved was recognized.

The symptoms remained puzzling. The attacks of pain, beginning in the epigastrium or chest, would radiate into the neck, over the head and even into the balls of the feet. They would often wake him from sleep and require hypodermics for relief. When having an attack of pain he would not remain quiet but would walk about excitedly and often have the urge to urinate. At times the pains would not prevent him from indulging in a remarkable degree of physical activity. On thyroid definite improvement was noted in his appearance, alertness, and strength. The attacks of pain increased in frequency, however, and were apparently related to the amount of thyroid (30 to 45 mg.). Further x-ray studies were again done to rule out hiatus hernia, peptic ulcer, and gall bladder disease, but again all were negative. Three months later, after a violent argument with his wife, the patient experienced sudden severe substernal pain which was followed by shock and congestive failure. An immediate electrocardiogram showed evidence of an acute posterior myocardial infarction. He died within two hours. Autopsy showed Grade IV atherosclerosis of the coronary arteries, old and recent myocardial infarctions, and hypoplasia of the thyroid consistent with myxedema.

Discussion

These patients are alike in that both had a welter of other complaints which drew attention from their chest pain and clouded the diagnostic picture. They had neurotic personalities with excessive reaction to their physical sensations. The first patient originally gave a convincing history of anginal pain, but it was obscured and discredited when, on closer study by many observers, he supplied a mass of dramatic details about the pain and other symptoms. In the second patient the diffuse nature of the pain, its long duration, and the lack of correlation with activity led to questioning of electrocardiographic evidence of myocardial damage. The problem was further complicated by the development of myxedema.

From the evidence at hand it is our opinion that in both of these patients the chest pain was caused by coronary artery disease. It was aggravated and made more diffuse by anxiety, which, as Arlow[1] has shown, commonly results from awareness of heart disease. The pain as thus modified was no longer typical of angina. In this it resembled patients studied by Master, Pordy, and Jaffe,[2] who found that 31% of those with coronary disease had pain at rest and 15% were unrelieved by nitroglycerin. Conner,[3] Harrison,[4] and Parkinson[5] have also emphasized the variable types of pain seen in patients with coronory disease. Masters[6] has recently discussed this problem in an editorial in the J.A.M.A.

The diagnosis of angina pectoris was made early in both these patients, but as time passed and as more observers saw the patients, their symptoms became less clear-cut. It is apparent that their anxiety was increased by the physicians' indecision, and that the original symptoms were obscured by many new complaints which further confused the issue.

Conclusions

The patient with coronary artery disease may develop atypical pain patterns and other non-cardiac symptoms which lead to confusion in the diagnosis of angina pectoris. It is important for the physician to recognize that many of these complaints represent the patient's reaction to his disease.

References

1. Arlow, J. A., Anxiety Patterns in Angina Pectoris, Psychosom. Med., Vol. 14; 461, 1952.
2. Master, A. M., Pordy, L. and Jaffe, H. L., Cardiac and Non-cardiac Chest Pain: A Statistical Study of Diagnostic Criteria, Ann. Int. Med., Vol. 41: 313-322, August, 1954.
3. Conner, L. A., The Psychic Factor in Cardiac Disorders, J.A.M.A., Vol. 94; 447, 1930.
4. Harrison, T. R., Clinical Aspects of Pain in the Chest, Am. J.M.Sc., Vol. 207; 561, 1944.
5. Parkinson, John, Cardiac Symptoms, Ann. Int. Med., Vol. 35; 499, September, 1951.
6. Master, A. M., Angina Pectoris — A Thirty Year Progress Report, Editorial, J.A.M.A., Vol. 162, No. 17; 1542-1544, December 22, 1956.

The Roentgenological Diagnosis Of Placenta Praevia[1]

W. C. MacCarty, Jr., M.D.* and R. A. McManus, M.D.**

The first case reported in the medical literature of localization of the placenta by means of x-ray is accredited to Baumann[1] who in 1930 recognized the soft tissue shadow of a placenta lying low in the pelvis in a patient with a transverse presentation. However, it remained for Menees, Miller and Holly[2] to undertake the first study of placenta localization by x-ray. These men later in the same year (1930) introduced the method of amniography. They injected 10 cc. of a 1:1 solution of strontium iodide into the amniotic sac blindly through the anterior abdominal wall. After waiting 30-60 minutes they took an AP and lateral view of the abdomen. This method permitted excellent visualization of the fetus, placenta, and small parts. However, the numerous dangers, both maternal and fetal, did not justify continuance of this method.

Today direct amniography has been replaced by three safer methods:

1. Intravenous placentography
2. Soft tissue localization
3. Obstetrical cystography

The proponents of intravenous placentography are mainly European and their work is still in the experimental stage. Maria Grossman[3] at the University College Hospital in London uses thorotrast and angiopac intravenously which collect in the highly vascular placenta in great enough quantities to enable x-ray visualization. Olaf Norman[4] at the University of Lund in Sweden demonstrates the placenta by retrograde injection of a femoral artery with contrast media. After applying an Esmach bandage, the appropriate femoral artery is entered with a Bachman needle, the uterine artery and hence the placental area are visualized by retrograde filling.

The main proponent of the soft tissue method of placental localization is Dr. Frank Reid[5] of the Radcliff Infirmary in Oxford, England. He maintains that the diagnosis of low implantation or placenta praevia can be made by measuring the distance between the vertex and the sacral promintory and the vertex and the symphysis pubis on the lateral film of the abdomen without the use of contrast media. This method relies on vertex presentation with the head entering the pelvis. Two views are taken with the bladder empty; one a routine AP and the other a lateral, utilizing a saucerized aluminum filter[7] to offset the difference in density between the gravid abdomen and the bony pelvis. This filter permits the abdomen and pelvis to be filmed with one exposure. Both films are taken upright if the patient's condition permits. If not, a 45° Fowler's position is utilized. Both films are scrutinized initially for the soft tissue shadow of a placenta, which if present in the fundal region would rule out a placenta praevia. If the placenta is visible in the lateral or side walls of the uterus, the position of the fetal head is determined. If the distance between the fetal head and the sacral promintory and the fetal head and the symphysis pubis is less than 1.5 cm. then there is no roentgen evidence of placenta praevia. If the distance is 1.5-2.0 cm. between these two points and the patient is in the 8-9 month of gestation, Dr. Reid considers this presumptive evidence of placenta praevia. However, factors which give false positive results must be ruled out — 1) a full bladder, 2) pelvic tumor, 3) laxity of anterior abdominal wall (so head does not lie on pelvic brim), and 4) steep inclination of the brim of the pelvis. If the patient is in 6-7 month of pregnancy, this measurement is considered probably normal as the upper uterine segment is still in the pelvis and a follow-up study would be indicated in two weeks to one month for comparison. Measurements above 2.0 cm. are considered evidence of placenta praevia.

Obstetrical Cystography

Obstetrical cystography as originally outlined by Ude, Robbins and Urner[6] in 1938 is perhaps the most popular present day method of placental localization. In this method air or a contrast medium is injected into the bladder and the relationship of the vertex to the bladder and sacrum are investigated. In normal implantation the superior surface of the bladder is smooth and regular, and maintains a symmetrical relationship to the fetal head. The vertex and the bladder are normally separated by less than 1.0 cm. Any increased separation or asymmetry of the vertex and the bladder, especially if accompanied by a soft tissue mass, would be indicative of placenta praevia. In the

---

1. From the Mary Hitchcock Memorial Hospital, Hanover, N. H.

*Associate Radiologist, Mary Hitchcock Memorial Hospital and Hitchcock Clinic. Assistant Professor of Radiology, Dartmouth Medical School.

**Resident in Radiology, Mary Hitchcock Memorial Hospital. Graduate Student, Dartmouth Medical School.

lateral view of the pelvis, displacement of the fetal head away from the bladder by a soft tissue mass would indicate placenta praevia.

The routine roentgen examination for placenta praevia at the Hitchcock Hospital is a combination of cystography and soft tissue localization: Three films are taken: 1) lateral of the pelvis (Fig. #1), 2) AP of abdomen including pelvis (Fig. #2a and 2b), 3) soft tissue lateral of abdomen. All films are taken table top. Prior to the films approximately 150 cc. of air is injected into the bladder. The soft tissue lateral of the abdomen is used to localize the placenta in cases of normal implantation, as 90% of placentas are implanted on the anterior or posterior walls. The other two films constitute the usual cystographic routine.

During the years 1948-1956 inclusive, 102 cystograms were performed in this hospital on patients with clinical findings consistent with placenta praevia. Fifty of these 102 cystograms were considered normal, 31 questionable, probable or suspicious, and 21 definitely placenta praevia. All the 21 cases definitely diagnosed as placenta praevia by x-ray were proven at the time of delivery.

Of the 31 interpretations reported as questionable, probable or suspicious, 14 were proven to have placenta praevia and 17 went on to uneventful delivery. This is a difficult group to account for statistically for even though the roentgen evidence and the clinical prenatal findings may point toward placenta praevia or low implantation, if the position of the placental implantation is not noted at the time of delivery, it is possible that a presently asymptomatic low implantation could go undetected and hence unrecorded. Stevenson[8]

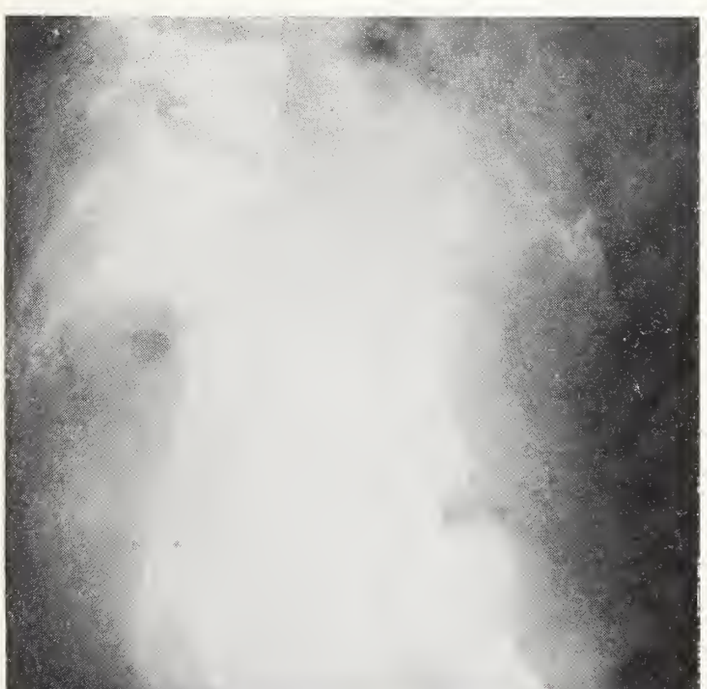


FIG. 1. Lateral of pelvis showing anterior and superior displacement of fetal head by a marginal placenta praevia.



FIG. 2a. Marginal placenta praevia: The placenta is visible in the right uterine wall with a marginal lip extending between the bladder and the vertex on the right.

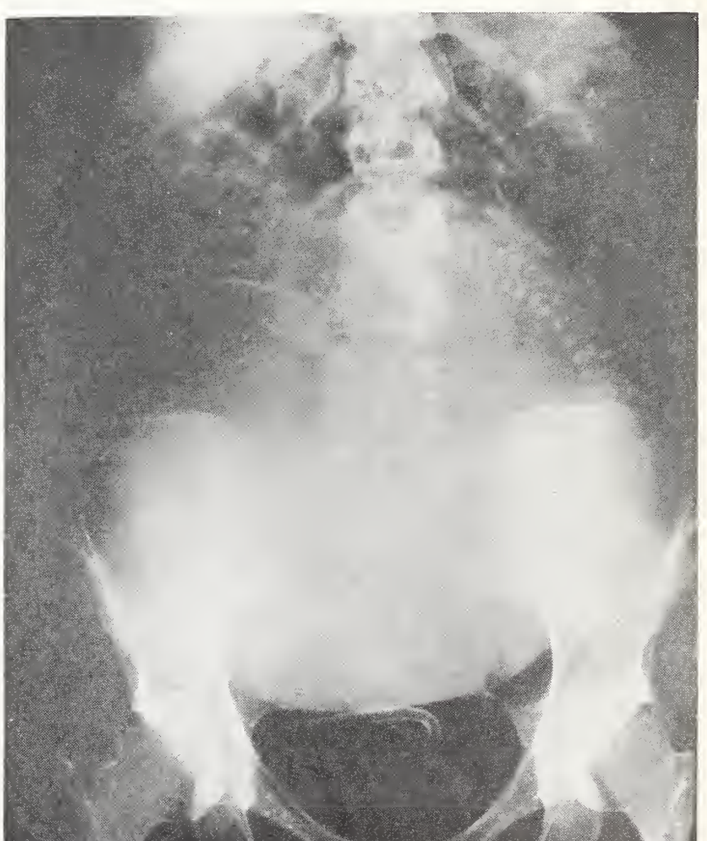


FIG. 2b. Complete placenta praevia: The soft tissue shadow of a placenta covers the entire pelvic inlet in a breech presentation.

The duty of the radiologist in reporting obstetrical cystograms is to substantiate the obstetrician's diagnosis or to forewarn the obstetrician of the possibility of impending complications. Hence he must review the films with a high degree of suspicion.

at the Boston Lying-In Hospital in his article on placenta praevia calls these errors of inclusion, i.e. the diagnosis of probable placenta praevia was made by x-ray but never substantiated at the time of delivery. He does not consider these real errors in diagnosis as he does the errors of exclusion (calling a patient with placenta praevia normal). The duty of the radiologist in reporting obstetrical cystograms is to substantiate the obstetrician's diagnosis or to forewarn the obstetrician of the possibility of impending complications. Hence he must review the films with a high degree of suspicion.

It is extremely difficult to localize the placenta adequately or find valuable and reliable evidence of placenta implantation before at least the 32nd week of pregnancy. In fact, many go so far as to say the diagnosis is difficult unless the head is entering the pelvis. Also, the diagnosis of placenta praevia and/or low implantation is considerably more difficult in breech presentations. It is difficult in breech presentations to determine whether any mass or displacement is due to the soft tissue shadow of the buttocks or of a low lying placenta.

In our series of 17 cystograms which were considered questionable or suspicious and whose placental implantation was not considered unusual at the time of delivery, five were performed before the 32nd week of pregnancy and two were performed on breech presentations. Therefore nearly one-half of these suspicious interpretations were made in unfavorable radiological circumstances. The remaining ten delivered spontaneously and no mention of abnormal placenta implantation was recorded by the obstetrician.

Fifty patients in the total series of 102 cystograms were considered to have normal implantation. Within this group there were three real errors in diagnosis, that is errors of exclusion, patients who did have placenta praevia but whose obstetrical cystograms were considered normal. Of these cases, the first had her cystogram in the 24th week of pregnancy and delivered immature twins two weeks after cystography; the second after the 28th week of gestation; and the third had a normal spontaneous delivery at term at which time a small lip of placenta was noted. All delivered spontaneously and in two the gestation period was too short to make the roentgen examination totally adequate.

In all there were 43 cases of placenta praevia recorded at this hospital during the years 1948-1956 inclusive. In two delivery occurred elsewhere and hence final proof of the diagnosis is lacking. Three cases had no obstetrical cystography. Of the remaining 38 cases of placenta praevia who did have cystography, 21 were reported as placenta praevia by the x-ray department, 14 were considered suspicious of placenta praevia, and 3 were erroneously reported as normal. Twenty-five or 61% of the 41 proven cases of placenta praevia were delivered by caesarian section and 16 or 39% delivered vaginally. The average age of our placenta praevia patients was 31 years and the average gravidity 4.3 which coincides well with the reported national averages.

Excluding the errors of inclusion, which as previously stated are not reliable statistically, the department of radiology's overall accuracy has been 97.1% or three diagnostic errors in 102 examinations.

Summary

We have presented a short historical review and technical description of the localization of the placenta by means of x-ray. At the Hitchcock Hospital during the past nine years the x-ray method used has been a combination of obstetrical cystography and soft tissue localization. During this period 102 examinations were performed; 50 were considered normal, 31 questionable, and 21 definite. Those considered definite were all confirmed at delivery. At delivery 17 of those considered questionable proved to have placenta praevia, while the remainder in this group did not. Three of the group considered normal proved to have placenta praevia and were those considered x-ray diagnostic errors. We have discussed briefly the difficulties in evaluating the questionable group with emphasis on the hazards of diagnosis before the 32nd week of pregnancy or in the presence of a breech presentation.

References

1. Bauman: Munchen Med. Wehnschr, 17: 1148-1151, 1930.
2. Mences, T. O., Miller, J. D., and Holly, L. E.: Am. Journal of Roent. 52: 363, 1944.
3. Grossman, M. E.: Brit. Journal of Rad., vol. XXVI, 388-392, 1953.
4. Norman, O.: ibid 393-400.
5. Ried, F.: ibid 406-412.
   Ried, F.: Brit. Journal Rad., 22: 557-566, 1949.
   Ried, F.: Brit. Journal Rad., 22: 643-665, 1949.
6. Ude, Robbins, Urner: Am. Jour. of Roent., 40: 37-42, 1938.
7. Ried, F.: Brit. Jour. of Rad., 22: 81-83, 1949.
8. Stevenson, C. S.: Am. Jour. of Obs. & Gyn., vol. 58: 15, 1949.

SPECIAL ARTICLE

Why Physicians Should Not Be Under Social Security*

FREDERICK W. SLOBE, M.D., CHICAGO

Physicians are humanitarians. Otherwise they would not have undertaken the practice of medicine. And they are not opposed to the humanitarian motives of certain aspects of social security.

It is believed, however, that the majority of physicians are right in their opposition to the compulsory inclusion of the medical profession under social security. Accordingly, the following discussion will endeavor to explain the basis for this conviction.

1. *The Social Security Act was enacted in 1935 to provide a floor of economic security primarily for retired workers of industry at age 65. It was intended particularly to help the lower income people, who were often among the indigent and who became objects of charity in their old age, to have a minimum guaranteed income after age of 65. It was enacted following the great depression and was designed to help those who had had long periods of low or no income during which time they had grown older and were approaching the unhirable age of 65. Gradually, the number of those covered has more than doubled to include nearly all those gainfully occupied. Many of these will never benefit even though they pay the tax.*
   (a) Most physicians do not come under the lower income category.
   (b) Very few physicians are ever objects of charity. Only 43 doctors and widows are current beneficiaries of the medical benevolence fund of the Illinois State Medical Society.
   (c) Physicians work for themselves and are not automatically cut off and prohibited from working for income at age 65 as are many people in industry.
   (d) There are always people who are ill and need physicians so that doctors, as a rule, can be productive in various ways and degrees until a ripe old age.
   (e) There are serious implications involved in inducing physicians to retire at 65. At present only one physician in seven retires between 65 and 75. And the sum total of medical knowledge and all available medical manpower should be utilized to the maximum. Physicians, as they grow older, usually adjust their activities and their patients recognize this. Besides, there is no scientific basis for retirement based on chronological rather than physiological age. Many of the greatest works have been accomplished by people over 65. Maturity of judgment and experience are often best manifested then. Retirement should be an individual matter.

   Dr. Watson Gailey recently expressed the consensus among physicians quite well when he stated: "When I was 50 years old, I was thoroughly convinced that the physician of 70 should be retired with the label of 'old fogey.' I have changed my mind. One is never too old to learn." Besides, as Harold Blake Walker emphasized so well, "When we coast we go down hill."
   (f) Industrial employees under social security pay half the tax and the employer pays half but physicians will pay it all by themselves because they are self-employed.

2. *Under the Social Security Law those receiving social security, who are under the age of 72, may not earn more than $1,200 in any one year without some loss in benefits. There is this exception, however, in that payments may be available in months during which the beneficiary earns less than $80.*
   (a) Physicians require many years of training before they are able to practice, and many are at the peak of their earning capacity when they reach 65. This may go on for years.
   (b) Few physicians would be content to quit practicing, writing, consulting, engaging in medical administration or other medical relationships, in order to be eligible for social security payments. Sudden inactivity may be

*Reprinted from the Illinois Medical Journal, August, 1957.

deadly for the physician, both physically and psychologically. They are accustomed to being productive and many have not developed hobbies. And under social security, any appreciable productiveness is penalized as soon as it provides an annual income over $1,200.

(c) The young physician should be particularly wary. The younger the physician the less social security has to offer. He should ask himself "How much will $108 or $162 a month mean to me 40 years from now?" Remember, if he works after 65 he still pays taxes and if he earns over $1,200 he is penalized. He should remember he has about one chance in seven of retiring and that the chances are about 90 percent of what he pays in social security taxes for retirement will go to benefit others and only a small percentage will accrue to him.

And he should remember (as should all physicians) that he cannot collect both retirement and survivors benefits at the same time and that it would not be unlikely if he collected neither. Remember, to collect the retirement benefit he would have to live to, and retire at 65 (or become totally disabled at age 50), virtually quitting any gainful practice. As to survivors' (death) benefits, except when there are one or more dependent children, his widow would have to be 62 or over, she could not remarry, nor could she earn over $1,200 yearly without being penalized.

(d) Physicians paying in to the social security fund for years would thus derive little benefit from it in many instances.

3. *The trend is toward a continual expansion of federal intervention. One reason for this is that legislators are acutely conscious of the necessity for being re-elected, thus, they develop the habit of letting the future take care of itself. It was the influence of expediency, no doubt, which caused many to vote for the disability amendment to the social security law. Historically, most social security amendments have occurred during election years. This tendency should be warning enough.*

(a) It should be clearly understood that this is not "insurance" but a charitable governmentally controlled subsidy using the funds paid in by current participants[2]. The individual has no rights established by a contract, the benefits being by statute only, hence both the tax and the benefits can be changed by Congress at any time. Originally an annuity without survivorship benefits, it has developed into a pension. Participation is compulsory and cannot be dropped. How many physicians would take out an insurance policy in which the premiums could be increased and the benefits changed by the company at any time? Let us not confuse social security with War Risk Insurance which actually *is* insurance with fixed premiums and fixed benefits, under a contractual arrangement. There seems to be little doubt that many of the younger doctors who seem to favor inclusion under social security do so because they mistakenly consider it to be cheap "insurance."

No one knows how high the tax or what the benefits will be in the future. Physicians tempted should remember that the chances of most physicians or their dependents collecting the indicated benefits are remote indeed. If so-called "present" taxes are sufficient for future demands, why is the tax rate increased periodically? True insurance was never like this.

(b) The heart of the scheme is compulsion. If physicians are included under the Act, every doctor will be taxed if he earns over $400 per year, even if he has no dependents. And we should consider whether compulsory government insurance may not be the forerunner of compulsory government medicine.

(c) It is required that all people be forced to pay, good risks as well as poor ones.

(d) The so-called social "insurance" as embodied in social security calls for the government to come to the aid of everyone in all the normal risks of life.

(e) Thus, with the government providing protection as a matter of right and compulsion, the individual is taught to rely upon the state in areas where self-reliance has always been considered the basis of our society.

(f) This in essence is the cradle to the grave security system and is closer to the grave than to the cradle. It can turn our nation into a socialistic state in which the planners tell us there will be no need to look after ourselves, nor to work and plan for the future. Old Age Assistance, instead of diminishing following the advent of social security, has increased steadily.

4. *If we look deeper, we can see another hidden danger. The welfare state will catapult us into a full compulsory health insurance and medical care program, with physicians caught in the vise of socialized medicine. The recently adopted total disability at age 50 amendment to the Social Security Law is another step in this direction.*

Let us review the history of the fellow travelers and

the socialistic International Labor Organization. That organization in Geneva in 1952, adopted seven minimum standards of social security, all of which except the last three, have in some measure come to pass here. And a bill was introduced in the last legislative session pertaining to one of these three.

It has been estimated that, if all the points of the International Labor Organization were adopted here it might involve 35 percent of payroll. In the past five years the tax base, that is, the maximum earned income on which you would be taxed, has increased by 40 percent. If this rate is maintained the maximum income taxed would reach $9,000 by 1975. If by that time the tax is increased to 6 percent, as in the present law, the annual tax will reach $540.

I think that most citizens believe as I do — that the social security system has certain merit and that there are legitimate activities, involving health and welfare, in which the federal government may be engaged, but if they believe the system is sound, they should be alert to the attempts to use or abuse it in the name of politics. Ill considered schemes to expand or broaden the scope of the social security program should be exposed for what they are.

5. *How do physicians personally feel about being included under the Old Age Security benefits of the Social Security Act? That is a personal question which can only be interpreted by the individual self-employed person as it applies to his own situation and in view of the inherent dangers of the social security system. One physician has expressed the view that he took the oath of Hippocrates as a young man, there was no time limitation on the vow to serve mankind. There was no provision to retire at the age of 65. He said he took the oath for life and serve he would until the breath of life was no longer in him. Many physicians feel the same way.*
   (a) Those who have the intelligence to become physicians have the intelligence to retire on a program based on their own planning and initiative.
   (b) A governmental program involving compulsion is repugnant to members of a highly individualized profession.
   (c) Cost is a major consideration. Advocates of the program of a so-called ideal social security system planned in Switzerland may not have known what its future cost would be. Here are the shocking figures. In France a similar program caused financial chaos. The tax rate absorbs 35% of much of their payroll and is one of the principal reasons for the failure of the French economy to make a post-war comeback.

So it seems vitally important that we as Americans consider that the estimated ultimate cost of the whole program, ultimately might reach 30% of payroll as a minimum and could cost as much as 40% of taxable payroll if the experience of certain other countries is duplicated here.

We as taxpayers must realize that with a mounting aged population, the costs of the social security program here will continue to climb.

When you consider that fact that 9 out of 10 of the nation's labor force are now included under old age security insurance through enactment of major amendments in the past five years, it becomes crystal clear that the cost involved will reach staggering proportions.

6. *And what is the social security program cost?*

Of course expansion of the system is reflected in the increase in the tax base, namely the amount of income which would be taxed. In 1937, the level was $3,000. In 1954, it climbed to $4,200. The rate of taxation also has seen periodic increases. In 1937, the tax was 1% of payroll for employee and employer — in 1950, 1½%, and in 1954 it became 2%.

7. *And what will physicians pay as individuals?*

COMPARATIVE TABLE TAX RATE

	Employee	Employer	Self-Employed
1957-1959	2¼ %	2¼ %	3⅜ %
1960-1964	2¾ %	2¾ %	4⅛ %
1965-1969	3¼ %	3¼ %	4⅞ %
1970-1974	3¾ %	3¾ %	5⅝ %
After 1975	4¼ %	4¼ %	6⅜ %

8. *What can you do with that amount of money if you invest in government bonds — in gilt edged stocks?*

9. *And if you don't take advantage of social security at 65 what will it have cost you? Remember, there are no benefits if you don't retire.*

10. *What alternative methods are there for physicians who wish financial protection for their families and their own old age?*
   (a) For the young physician

Life insurance with a family income rider furnishes fine protection.

For example, let us take a physician, aged 30, with 2 children, one newborn and one 2 years old.[3] A $20,000 life insurance policy with a 20 year family income rider, will pay his widow if he dies within 20 years, $200 a month until his baby is 20 years old, at which time his widow would receive a lump sum of $20,000 or installments as contracted. The annual premium would be about $498. If he lives for 20 years the insurance is retained, the annual premium being reduced about 20 percent. And, if he maintains this



New authoritative studies show that KYNEX dosage can be reduced even further than that recommended earlier.[1] Now, clinical evidence has established that a single (0.5 Gm.) tablet maintains therapeutic blood levels extending beyond 24 hours. Still more proof that KYNEX stands alone in sulfa performance—

- Lowest Oral Dose In Sulfa History—0.5 Gm. (1 tablet) daily in the usual patient for maintenance of therapeutic blood levels
- Higher Solubility—effective blood concentrations within an hour or two
- Effective Antibacterial Range—exceptional effectiveness in urinary tract infections
- Convenience—the low dose of 0.5 Gm. (1 tablet) per day offers optimum convenience and acceptance to patients

1. Nichols, R. L. and Finland, M.: *J. Clin. Med.* 49:410, 1957.



NEW DOSAGE. The recommended adult dose is 1 Gm. (2 tablets or 4 teaspoonfuls of syrup) the first day, followed by 0.5 Gm. (1 tablet or 2 teaspoonfuls of syrup) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours. Dosage in children, according to weight; i.e., a 40 lb. child should receive ¼ of the adult dosage. It is recommended that these dosages not be exceeded.

TABLETS: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

SYRUP: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK Lederle
*Reg. U. S. Pat. Off.

coverage until 65 and leaves his dividends he can withdraw a total of $18,160 at that time if he wishes.

For example, a decreasing term life insurance contract will give protection equivalent to an invested capital at the start of about $31,000, for a premium of only $98 a year (for the family income rider only). Similar protection under social security would cost him $141 a year at present rates, with no telling how much the tax will be increased later. Similarly, at age 40, the family income rider would be needed for only 10 years, assuming his children are about 10 years old and this would cost only about $60 a year.

(b) Other well known insurance facilities are available. Benefits are flexible; they may be paid in a lump sum or in installments; paid up policies, cash value, or loan security are available; also riders for double indemnity for accidental death or with waiver of premium for disability; provision for paying mortgages; disability income riders; payment of dividends; retirement annuities — these are but a few examples of the flexibility offered.

(c) The Jenkins — Keogh Bill, which failed to pass in the last Congress, would have enabled physicians and other self-employed to take an income tax deduction for contributions made to a retirement fund. Similar legislation to furnish retirement annuities should be supported by the medical profession in the next Congress.

The American Bar Association, no doubt, will continue its support for this legislation.

(d) Sponsorship by the state medical societies of various programs including group life insurance, disability insurance, hospitalization coverage, retirement income plans and the like.

If the profession is opposed to inclusion under compulsory social security, their constituent societies should exhibit energetic leadership in helping supply a desirable substitute at favorable cost. With this, should go a continuous campaign emphasizing the desirability of embarking on a planned program.

Important, too, are provisions against cancellation of hospitalization insurance or certain other benefits at a certain age or due to some other eventuality.

(e) Augmentation of the Benevolence Fund of the State Society might be considered. This pays up to $75 monthly to a physician or his widow.

The questions we have tried to answer, in the last analysis, must be answered by all physicians for themselves. However, it behooves all of us to take a good look at social security both for ourselves and for our nation. Above all, let us watch it carefully, let us use our influence to direct it so that it may not lead us down the road of the welfare state — compulsory health insurance and socialized medicine. In many countries the only choice seems to be between totalitarianism and the welfare state. American physicians can be proud of their resistance to both.

References

2. Richard C. Webster, M.D., and Richard J. Coffey, M.D.: Social In-Security — J.A.M.A., September 15, 1956.
3. Robert H. Jordan and Harry E. Ungerleider: Life Insurance for the Young Physician; J.A.M.A., October 27, 1956.

CORRECTION

Treatment of Barbiturate Poisoning. — In the article entitled, "Treatment of Barbiturate Poisoning," by Harold D. Cross, M.D. which appeared in the December, 1957, issue of the Journal of the Maine Medical Association, Page 443, line 5 in the left-hand column should have read "treated without analeptics" rather than "treated with analeptics."

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D.	Togus	Fourth District, JAMES E. POULIN, M.D.	Waterville
Second District, WALDO A. CLAPP, M.D.	Lewiston	Fifth District, MARCUS A. TORREY, M.D.	Ellsworth
Third District, RALPH P. EARLE, M.D.	Vinalhaven	Sixth District, RICHARD C. WADSWORTH, M.D.	Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville PEARL R. FISHER, R.N., Waterville

Across The Desk

Drafted Dentist Wins Fight for Officer Pay

High up brass in Army are angry, but helpless, over a recent decision by the U. S. Court of Claims. Its five judges, in unanimous opinion, held that a dentist inducted as a private was entitled to officer's pay. It was a legal victory for Dr. Herbert L. Nelson, now resident of Marysville, Washington, who was inducted in May, 1953, under the doctor-draft law and separated from active duty a year later. Army denied him a commission due to his undergraduate connections with Young Communist League and certain other groups. Now the Court of Claims has directed the General Accounting Office to figure up how much Uncle Sam owes Dr. Nelson, assuming he was entitled to captain's pay and allowances on basis of professional status.

"It was not proper to refuse to issue him a commission," court said, "and at the same time insist upon keeping him in the armed services and require him to do exactly the same work that he would have done had he been commissioned."

Army officials say that, at time of Dr. Nelson's induction, the doctor-draft law had a loophole which permitted him to sue. It subsequently was closed by legislation but this court ruling may encourage other physicians and dentists inducted prior to 1954 to go to court for comparable solace.

Medicare

Medicare rules are being softened so that when there is a hospital readmission within 14 days of original admission, patient won't be liable all over again to a minimum charge of $25 . . . . on December 7, incidentally, Medicare started its second year of operation with officials predicting first year's cost will be found, when all bills are received and paid, to be quite close to original estimate of $76 million.

Social Security Blues

At the Philadelphia meeting of the AMA (Dec. 3-6, 1957), the issue over which the House of Delegates felt greatest concern was one which it discussed least — Federal social security. AMA President David B. Allman's speech branding Forand bill (HR 9467) true socialized medicine was endorsed by the voting body without dissent. Trustees were directed to study feasibility of AMA's financing comprehensive investigation of social security system. But House of Delegates turned down another resolution calling on AMA to poll membership on OASDI coverage. Note: Physicians are sole vocational group excluded from rolls.

While condemning Forand bill for its broadening of social security benefits and reaffirming unwillingness to submit OASDI to referendum, House was not wholly resistant to principle of economic security. It pledged fresh support of Jenkins-Keogh bill (HR 9-10), the retirement plan for self-employed businessmen and professionals which this Administration opposes on the ground it would constitute a raid on U. S. Treasury.

Pennsylvania delegation sponsored this latest resolution requesting a national survey of doctors on their coverage under social security. At a reference committee hearing, it was reported that a poll conducted by

the state society revealed 50 per cent of membership in favor of participation on same basis as dentists, lawyers and other citizens.

Socialism Fears Grip AMA at Philadelphia

"Here is the opportunity to rid ourselves of the socializers." Words were Dr. Elmer Henderson's. It was 3/14/53 and AMA House of Delegates was met in extraordinary session here to act on President Eisenhower's proposal to establish a Department of Health, Education & Welfare. As past president of AMA, the late Dr. Henderson took the platform to urge approval of the scheme because he said it would, among other things, strike a blow at socialism by facilitating dismissal of two Federal Security Agency officials whom organized medicine regarded with suspicion.

So the House of Delegates voted aye and the Department of HEW was created to take place of FSA and the two officials departed but since then HEW has been hatching disability freezes, disability insurance and other innovations branded as socialistic by AMA (including the still unpassed plan for health reinsurance), so that in Philadelphia last week some leaders of AMA all but came out openly for the good old days of Oscar Ewing.

A reference committee, hailing presidential address of Dr. David B. Allman for his attack on Forand bill — a bill certain to have Republican support in 1958, as well as Democratic, and Administration may offer something similar — called it more vicious than the old Wagner-Murray-Dingell bill. "Social infringements upon our individual rights are already here," said the committee report, which was adopted by the House, "and have expanded under our very noses, albeit there were cynical promises to the contrary." This last may have been a reference to the pledge of President Eisenhower, given when he addressed the extraordinary session in 1953, that he would resist socialization of medicine.

Restraint Urged in Use of X-rays with Newborn, Pregnant Women

A group of specialists in health fields, after a day's discussion of the advantages and problems in use of diagnostic X-rays in care of pregnant women and children, came up with an appeal for restraint. The session was called by the Children's Bureau with Bureau Chief, Katherine Brownell Oettinger, presiding. In attendance were radiologists, pediatricians, obstetricians, dentists and public health workers. They agreed that, used under proper conditions, X-rays were invaluable, and they noted a general interest in the medical profession in promoting more knowledge and better observation of precautions in use of X-rays. It was emphasized that too many parents demand X-rays, in the mistaken belief they are essential to an examination, and that parents best contribution would be to refrain from pressing for X-rays when the physician or dentist did not recommend them.

It was reported that a number of states had outlawed the dangerous use of fluoroscopes in fitting shoes, and that other states are considering restrictions. X-raying newborn to discover enlargement of the thymus "is no longer considered good medical practice," the conference said, as "this condition is not the cause of trouble it once was thought to be."

Active TB Declines 30% in Five Years, but Still 250,000 Cases

Although active tuberculosis has declined 30% in the last five years, the general control picture is not entirely reassuring. This is the report of Public Health Service and the National Tuberculosis Association on results of the only nationwide survey in five years. The check shows that despite intensive efforts for control, almost 40% of the active cases are unknown to health authorities, and these people are not receiving treatment. ("Unknown" cases are estimated on the basis of X-ray survey findings.) Other findings — In the five years there has been no decrease in the number of persons who are or have been ill with the disease, and there are still about 250,000 persons known to have tuberculosis in its active form. The most encouraging phase of the report is that active cases have dropped from 350,000 to 250,000 and inactive cases requiring supervision of health departments from 600,000 to 550,000.

Other Prices Down but Medical Costs Spiral

Consumer price index for medical care rose 0.7 per cent between September and October to a record 139.7 (1947-49=100). For first time since August, 1956, there was no advance in index for *all* goods and services. It remained at 121.1. Conversely, the medical care index maintained its perfect record of moving ever upward. Annually between 1948 and 1956, and month-by-month since August, 1956, every index figure in this category has surpassed its predecessor.

"March Of Medicine" TV Program to be Aired January 23

The work of American physicians in remote regions of the world where native populations are largely dependent upon our doctors and medicine for their health and wellbeing is the television story to be aired coast-to-coast January 23. Entitled "MD International," the hour-long show will be presented at 10 p.m. EST over the full NBC-TV network both in color and black and white. This is part of a joint American Medical Association and Smith, Kline & French Laboratories project to inform the American public of people-to-people

activities in the health profession for the promotion of better international understanding.

The telecast reports on doctors' activities in thoracic and general surgery, orthopedics, ophthalmology and general medicine in such far-flung areas as Korea, Hong Kong, Burma, Sarawak, Nepal, India, Lebanon and Ethiopia. A special March of Medicine team traveled more than 34,000 miles to film these doctors in their unofficial roles as America's "medical diplomats."

Two world-wide figures — Charles Malik, foreign minister of Lebanon, and Emperor Haile Selassie of Ethiopia — will express their peoples' gratitude for the American medical work being carried on in their countries.

Medicine and the Press

In the past I have been critical of doctors, but my criticism has never had anything to do with the importance of their work in the cause of humanity. Most of this criticism has been in connection with their public relations, which they themselves worry about considerably. I still think that some doctors develop a pomposity that makes them insufferable. And there seems to be a collective medical attitude that differs from the more human individual reactions of the doctors. These are in the fields in which there can be improvement. But most of the doctors I know are devoted journeymen in the field of alleviating human misery and spend long hours at their work. I sometimes wonder how their families put up with them. . . —Alexander Bodi, Editor, *Palo Alto Times.*

House-Call Fees

Which physicians get the highest fees for house calls and which the lowest? The January 20 issue of *Medical Economics* reports the following national figures for normal daytime house calls:

OB/Gyn. man	$8-9
Internist	7-8
Pediatrician	6-7
General surgeon	6
General Practitioner	5-6

Different rankings are found, the magazine points out, when the national picture is broken down to its four main types of locality — metropolitan, urban, suburban, and rural. Only in metropolitan and suburban communities do OB/Gyn. men report the highest daytime house-call fees. In urban and rural areas, the internist heads the list.

"Progressive Care" in Hospitals

A study of new "progressive care" experiments in hospitals has been started by the Public Health Service, Department of Health, Education, and Welfare. Under "progressive care" plans, patients are moved from intensive care to routine care and then to self-service care as their condition improves.

A national survey is under way to find out how many hospitals have these plans. Questionnaires on this subject have been sent out to 8,000 hospitals throughout the country.

In addition, a team of Public Health Service personnel and consulting specialists will visit several hospitals that are conducting experiments in progressive care. The first plan to be studied by the team is at the Manchester Memorial Hospital, Manchester, Connecticut.

In this hospital the critically ill patients are placed in a special care unit with nurses constantly in attendance, special equipment, and necessary drugs; those less seriously ill are in a routine care unit; and those almost recovered, or awaiting diagnosis, are assigned to a self-service unit.

DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

The Etiology Of Mental Retardation*

MARGARET J. GIANNINI, M.D.**

PART I

Mental retardation is an effect rather than a disease itself. It means simply that a child has not developed mentally to the level expected of his age group. To discover whether the lack of development is evidence of an actual deficiency in capacity or merely of the presence of a physical or emotional block — either through the expression of intelligence or to the reception of stimuli — is an all important goal in the examination of such a child. In order to orient ourselves briefly, I would like to review the estimation of the extent of mentally retarded children throughout the United States.

The estimated extent of mental retardation in the United States — based on a population of 160 million people — is 3%. The estimated figure for the mentally retarded would then be from 1,500,000 to 4,800,000. Part of this total includes children from birth to eighteen years of age (which has a high percentage — roughly 530,000 to 1,600,000) and the older children (in the lesser group — sixteen to eighteen years) 300,000 to 960,000. As to gradation, where do the percentages lie? I think this can be shown with just a general run-down. 75% will include possibly, the mildly retarded; 20%, moderately retarded; and the very severely retarded, 5%. This is important because the mild cases or the children about whom we are most concerned — classified as trainable or educable — are the largest percent. Therefore, we should direct our endeavors mainly towards this group since this is the largest responsibility.

In the total population, a general breakdown looks pretty much as described above. Since we have broken down the percentages and numbers of retardation, we will now be able to concern ourselves with the etiological factors which are responsible for mental retardation. Medically speaking, we prefer to outline the causes of retardation according to the time that it is conceivable to believe that the retardation might have been precipitated, or had its initial occurrence. For example: medically we classify these categorically, such as pre-natal, natal, or post-natal. But in more general terms, we can describe it as situations which may occur after he is born. Before going into etiological factors, however, I think that if you will just briefly concentrate on the percentages of disabilities of various kinds, you will find the mental retardation figure astounding. I mention these disabilities in general because mental retardation surpasses greatly all the other major disabilities with which we are concerned. All are tremendous problems, rehabilitatively speaking and otherwise, and yet you will see that mental retardation takes the lead over polio, rheumatic heart disease, cerebral palsy, and blindness.

Mental retardation is an overwhelming problem which has long been neglected. This is the way etiological factors are classified. Of the pre-natal factors, we can begin with the hereditary area. Heredity plays a very small part in the cause, or as an actual etiological factor in mental retardation. But it does occur. The causes that fall into this genetic or hereditary area are numerous and variable. For instance, you may have a youngster who just hereditarily comes from a very low, familial kind of an intelligence background. The genes are just not of a superior quality. This would be an hereditary cause. Another would be cerebral sclerosis which is an hereditary genetic situation. In this condition, the brain is sclerosed and the brain cells are killed off by the lack of oxygen and replaced with other tissues.

Craniostenosis is another frightening term which can be simplified to "premature closure of the suture lines of the skull." The suture lines close normally at a pace

*Prepared especially for the "Journal" from a speech given at the Ninth Pediatric Institute, sponsored by the Division of Maternal and Child Health, Department of Health and Welfare and the Maine Medical Association — Colby College, Waterville, September 20, 1957 — on the Mentally Retarded Child.

**Administrative Director, Clinic for Mentally Retarded Children; Flower and Fifth Avenue Hospital, Associate Clinical Professor in Pediatrics, New York Medical College.

which is in relationship to the expansion of the brain; they go at a fairly equivalent rapidity so that one would expand at the same time the other does. But there are occasions when these suture lines will close before the brain has been permitted to expand at its proper pace and rapidity. This does not allow the brain to expand, and will cause brain damage. Medically speaking this is important, because if this is observed early enough, surgical intervention can make this youngster become, or remain, the potentially normal child. However, if this is diagnosed and realized too late, the brain damage has already occurred and very little or nothing can be done. Remember that we are still speaking of the prenatal period and that these are things that will happen before the baby is born, so that with craniostenosis — although the condition does not occur until after the baby is delivered — the potential is there.

What are some of the infections that can cause a child to become mentally retarded? Maternal syphilis is one, if it is improperly treated. A youngster may have either congenital syphilis or acquired syphilis. He may not necessarily be born with syphilis but rather develop it as an acquired situation. In both instances, if left untreated, the results may be the same.

Rubella or German measles: As all of you are acutely aware, German Measles definitely will cause mental retardation in many aspects, either in the form of mongolism, or other congenital defects of the brain, intercranial lesions or other severe congenital defects — such as blindness and deafness.

Anoxia and hemorrhage: If for any reason the lack of oxygen supply to the fetus or the embryo or the unborn child should occur with anything which would happen to the mother — either by drug injection, bleeding, or some other reason why she should have a lack of oxygen — this will have an indirect effect on the baby and may cause brain damage and mental retardation. The same explanation pertains indirectly to hemorrhage, for where there is a great deal of hemorrhage there is naturally a loss of oxygen supply.

Primary Cerebrocranial Developmental Defects

Cerebral Malformations

Cerebral Agenesis: In this condition, the cerebrum is grossly malformed and deficient. In anencephaly, a form of cerebral agenesis, the cerebral hemispheres, as well as the overlying cranium and scalp, are almost completely lacking — resulting in a condition incompatible with life for any extended period of time.

Another rare form of cerebral agenesis is hydraencephaly. Here, there is an absence of cerebral tissue and the space normally occupied by the cerebral hemispheres is filled with cerebrospinal fluid. The diagnosis of cerebral agenesis is often confirmed by pneumoencephalography. The presence of an abnormally low voltage on the electroencephalogram is characteristic of this condition.

Cerebral Hypoplasia (microcephaly): This is a cerebral developmental defect characterized by an abnormally small head (rarely more than 45 cm. in circumference.) Because of this failure of the brain to develop, premature closure of the fontanels may occur. This condition is usually accompanied by severe mental retardation. It must be differentiated from the primary premature closure of one or more cranial sutures in craniostenosis which subsequently results in an abnormally shaped head that may be smaller in circumference than normal.

Cerebral Hyperplasia (macrocephaly): Is a rare condition in which the brain tissue develops to an unusually large size. Differentiation from hydrocephalus can be made by ventriculography, since in macrocephaly the cerebral ventricular system is approximately normal in size.

Cranial Defects

Craniostenosis (stenocephaly): A developmental malformation of unknown etiology characterized, as we have mentioned above, by premature closure of one or more of the sutures. The resultant shape of the head is dependent upon what sutures are involved: e.g., coronal suture—brachycephaly (acrocephaly), sagittal suture—dolichocephaly (scaphocephaly), all sutures—oxycephaly (turret-shaped head). Brain damage and blindness may result from cerebral compression. Early surgery (craniectomy) is indicated to prevent this compression. Craniostenosis must be differentiated from microcephaly due to cerebral hypoplasia. In the latter condition, the sutures are open, although the cranium is small, and the fontanels may be closed prematurely.

Hypertelorism is characterized by an excessively wide distance between the eyes. It is caused by defective development of the sphenoid bone, with the lesser wings larger in size than the greater wings. There may be external strabismus and various degrees of mental deficiency. Roentgenograms show the characteristic disproportion between the greater and the lesser wings of the sphenoid. There is no treatment.

Craniofacial Dysostosis (Crouzon's disease) is characterized by a central prominence in the frontal region of the skull, a beak-shaped nose, exophthalmos, prognathism and external strabismus. Mental retardation may not always be present.

Cranium Bifidum is a condition in which there is a defect of the bony vault of the skull, usually in the midline in the occipital region. There may be a protrusion of the meninges and the brain (meningo-encephalocele) resulting in hydrocephalus. Convulsions and mental retardation may occur.

Congenital Ectodermoses

This group of conditions has in common the presence of neoplasia or dysplasia in the central or peripheral nervous system. Other organs may be involved and various skin manifestations are common.

Tuberous Sclerosis is a condition characterized by

cerebral nodules, convulsive seizures and mental deterioration. Skin lesions (adenoma sebaceum) — primarily over the nose and upper lip — may also be present. This condition may occur in more than one member of a family.

Cerebral Angiomatosis (Sturge-Weber syndrome) is a condition in which there are unilateral intracranial angiomas with an associated facial hemangioma. Calcifications in the cerebral cortex may be demonstrated by roentgenography. Convulsive seizures commonly occur.

Neurofibromatosis is an hereditary disease characterized by cafe au lait spots on the skin, and non-tender nodular tumors (neurofibromas) in the skin and the subcutaneous tissue. Similar tumors may be found in the brain, the viscera and the bones. This condition is rarely associated with mental retardation.

Mongolism

Mongolism is a common form of mental retardation of unknown etiology. The diagnosis depends on the presence of mental retardation associated with characteristic clinical features resulting from disordered growth of the skeletal system.

The appearance is characteristic because of the peculiar maldevelopment of the skull, particularly of the basilar bones. The head is small and flat anteroposteriorly; the face is broad; and the cheek bones are high (mongoloid type). The eyes are set wide apart and slant upward and outward; the palpebral fissures are narrow, and the epicanthal folds prominent. The ears are malformed; the lips are thick; and the tongue is large, rough, and fissured. The skin is soft and loose, with extra folds in the neck region. The hands and the feet are short and stubby with widely spaced first and second digits. The fifth fingers are short and curve inwardly; and the middle and distal phalanges are often rudimentary. There are abnormal sole and palm prints. The genitals are small, and there is an absence of mammary tissue in the young infant. Muscular hypotonia and joint hypermobility also occur. Congenital cardiac defects may be present. Physical and mental growth is retarded. The intelligence quotient may range from idiot to moron.

No hormonal or other drug therapy has proved to be beneficial. Special training, education and psychological care of the family and the child are often necessary to achieve the patient's maximum potentialities.

Familial Defect
(Defective or Inferior Intelligence in One or Both Parents and in Other Siblings)

Previously, this category was considered as representative of the largest percentage of the mentally retarded population. It is believed that this form of mental retardation is produced by the transmission of multiple abnormal genes from defective parents. At one time, this was considered to be purely a functional disturbance. However, recent studies have shown various significant pathologic abnormalities in the central nervous system. Although it has been shown that there is a greater incidence of abnormal electro-encephalographic records in this group, only a slightly higher incidence of convulsive disorders is seen, as compared with the general population.

The diagnosis is made by the absence of evidence, either in the history or the physical examination, of any causative factor for mental retardation in a child, other than the presence of defective or inferior intelligence in siblings and in one or both parents. Undoubtedly, many instances of mental retardation have been placed in this category erroneously because of the limited means available to diagnose organic cerebral abnormalities accurately.

Undifferentiated Cerebrocranial Defect
(Primary Amentia)

This category includes those infants and children with mental retardation which results from congenital cerebral abnormalities that cannot be classified in any of the recognized groups. Clinically, there are no characteristic physical signs, and the diagnosis is made primarily by a process of excluding the identifiable forms of mental retardation. As our knowledge of cerebral physiology and pathology increases, the number of cases placed in this category will undoubtedly decline.

(Part Two of this discussion will be published in the next issue of the "Journal".)



ANSWERING QUESTIONS

Is Medicine in the "Insurance Business"?

More than seventy medical society-sponsored Blue Shield Plans are serving nearly one-fourth of the people of the United States, and underwriting about 40% of all the basic surgical insurance and about 50% of all the basic medical (non-surgical) insurance now in force. The rest is underwritten by more than 800 private insurance companies and independent local plans.

Is medicine — by its sponsorship and control of Blue Shield — in the "insurance business?" Let's remember, first, that the medical profession organized these Plans at a time when the insurance industry said it couldn't be done. And they were right. Medical care prepayment couldn't be organized and offered by an insurance company. It had to be done by medicine itself.

Blue Shield succeeded because America's doctors were behind it. They accepted less than normal schedules for their services; they agreed to accept (and in many areas they have actually accepted) pro-rated portions of those fees when the local Plan has been unable to pay the full schedule. Medicine's leaders have accepted the responsibility for guiding and directing their local Blue Shield Plans — a job that accounts for an incalculable number of unremunerated hours on the part of hundreds of the country's busiest physicians.

Have the members of our profession accepted these duties and responsibilities in order to put medicine "in the insurance business?" Certainly not! Medicine is in the business of providing medical care — nothing else. The profession has always been concerned with the ways and means by which patients pay for medical care and provide for future medical needs, and the profession quite naturally wants to control the basic economy of medical practice.

Medicine is *not* in the insurance business. But, through Blue Shield, the profession *is* in the business of helping patients pay for their doctors' services. And in the final analysis, the patient alone profits through participation in Blue Shield.

County Society Notes

100% Paid Membership for 1958 Piscataquis County Medical Society

PENOBSCOT

November 19, 1957

The November meeting of the Penobscot County Medical Association was held at the Bangor House, Bangor.

At the business meeting, minutes of the October meeting and of the November meeting of the Executive Council were read. Resolutions were presented on the death of Clarence Emery, Jr., M.D. A letter from the M.M.A. concerning Social Security for physicians was read by the secretary. A letter from the Administrative Officer of Dow Field relative to the purchase of pharmaceuticals under the Medicare Act was also read. Edward B. Babcock, M.D. of Bangor spoke briefly on Diabetes Week. Robert J. Hughes, M.D. of Bangor reported on pending legislation in regard to the provision of medical services for Social Security beneficiaries.

Alphonse Telfeian, M.D. of Bangor and Francis R. O'Kane, M.D. of Millinocket were elected to membership.

A nominating committee consisting of Drs. Carl E. Blaisdell, Asa C. Adams and Magnus F. Ridlon was appointed by the President-elect, J. Robert Feeley, M.D.

At the Scientific Session, Edward A. Gaensler, M.D. of the Department of Surgery of Boston University and Harvard Medical School developed the subject "Applied Pulmonary Physiology" in a manner that was interesting to all and well deserved the rising vote of thanks which he received.

At the November, 1957 meeting of the Executive Council of the Penobscot County Medical Association, the following members were appointed as delegates and alternates to the Maine Medical Association House of Delegates: Delegates — Nelson P. Blackburn, M.D., Bangor (3 yrs.), Arthur N. Lieberman, M.D., Bangor (3 yrs.), Leonard Miragliuolo, M.D., Bangor (1 yr.), Wilfred I. Butterfield, M.D., Lincoln (2 yrs.). Alternates — Hans Weisz, M.D., Lincoln (3 yrs.), Eugene E. Brown, M.D., Bangor (1 yr.), Hans Shurman, M.D., Dexter (1 yr.), Donald E. Bridges, M.D., Bangor (2 yrs.).

WARREN G. STROUT, M.D.
Secretary

KENNEBEC

December 6, 1957

At the annual meeting of the Kennebec County Medical Association on December 5, the following officers were elected for 1958:

President, Howard H. Milliken, M.D., Hallowell
Vice-President, Anthony E. Lepore, M.D., Gardiner
Secretary-Treasurer, Arch H. Morrell, M.D., Augusta
Councilors, John F. Reynolds, M.D., Waterville (1 yr.), Philip Dachslager, M.D., Augusta (2 yrs.), Loring W. Pratt, M.D., Waterville (3 yrs.)
Delegates and Alternates to the Maine Medical Association House of Delegates to December, 1959: Delegates — Clarence R. McLaughlin, M.D., Gardiner; Brinton T. Darlington, M.D., Augusta; Oakley A. Melendy, M.D., Augusta; Arthur H. McQuillan, M.D., Waterville; George J. Robertson, M.D., Waterville. Alternates — Richard N. Fallon, M.D., Augusta; Hugh J. Mathews, Jr., M.D., Gardiner; Vaughn R. Sturtevant, M.D., Waterville; James N. Shippee, M.D., Winthrop; Richard L. Chasse, M.D., Waterville.

A. H. MORRELL, M.D.
Secretary

HANCOCK

December 11, 1957

The December meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth, Maine.

Robert F. Russell, M.D. of Penobscot, President of the society, opened the meeting. The following officers were elected for 1958:

President, William C. Luther, M.D., West Sullivan
Vice-President, Llewellyn W. Cooper, M.D., Bar Harbor
Secretary-Treasurer, Elizabeth B. Connell, M.D., Blue Hill
Censor, W. Edward Thegen, M.D., Bucksport
Delegates to the Maine Medical Association, James H. Crowe, M.D., and Marcus A. Torrey, M.D., Ellsworth. Alternates, Philip L. Gray, M.D., Blue Hill; Harry Kopfmann, M.D., Deer Isle.

Russell G. Williamson, M.D. of Blue Hill was elected to membership in the society.

Raymond E. Weymouth, M.D. of Bar Harbor, spoke briefly on Blue Cross-Blue Shield coverage for members of the M.M.A. and their families, and the poll, to take place in February, on Social Security for doctors.

The speaker of the evening was Harold D. Cross, M.D. of Bangor, who gave a very interesting and instructive talk on Barbiturate Poisoning.

ARTHUR M. JOOST, JR., M.D.
Secretary

LINCOLN-SAGADAHOC

December 17, 1957

A meeting of the Lincoln-Sagadahoc County Medical Society was held at The Ledges, Wiscasset on December 17, 1957.

The meeting was called to order by George W. Bostwick, M.D., Secretary-Treasurer, in the absence of other officers. Reports were given concerning the Diabetes Detection Drive in the area. Six specimens were reported positive and all participants were sent cards, telling of the results of their cases.

Richard I. Clark, M.D. of Bath was elected to membership.

Francis A. Winchenbach, M.D. of Bath, President of the Maine Medical Association, spoke briefly on the advantages of the Blue Cross-Blue Shield plan for members of the M.M.A. and their families.

Alta Ashley, M.D. of the State of Maine Department of Health and Welfare, discussed problems and plans of the department relative to the area. Her remarks were followed by a discussion of relations between the county society and the department.

The film "The Medical Witness" was shown.

At a brief business meeting in November, Miriam Doble, M.D. of Bath was reinstated to membership.

GEORGE W. BOSTWICK, M.D.
Secretary

SEARLE *announces...*

a superior psychochemical
for the management of both
minor and major
emotional disturbances



Dartal T. M.

dihydrochloride — brand of thiopropazate dihydrochloride

- more effective than most potent tranquilizers
- as well tolerated as the milder agents
- consistent in effects as few tranquilizers are

Dartal is a unique development of Searle Research, proved under everyday conditions of office practice

It is a single chemical substance, thoroughly tested and found particularly suited in the management of a wide range of conditions including psychotic, psychoneurotic and psychosomatic disturbances.

Dartal is useful whenever the physician wants to ameliorate psychic agitation, whether it is basic or secondary to a systemic condition.

In extensive clinical trial Dartal caused no dangerous toxic reactions. Drowsiness and dizziness were the principal side effects reported by non-psychotic patients, but in almost all instances these were mild and caused no problem.

Specifically, the usefulness of Dartal has been established in psychoneuroses with emotional hyperactivity, in diseases with strong psychic overtones such as ulcerative colitis, peptic ulcer and in certain frank and senile psychoses.

Usual Dosage • In psychoneuroses with anxiety and tension states *one 5 mg. tablet t.i.d.*

• In psychotic conditions *one 10 mg. tablet t.i.d.*

New Members

LINCOLN--SAGADAHOC

Richard I. Clark, M.D., 858 Washington Street, Bath
Miriam Doble, M.D., 900 Washington Street, Bath

KNOX

Johan Brouwer, M.D., 56 Talbot Avenue, Rockland
Robert H. Eddy, M.D., 23A Summer Street, Rockland
Richard K. Jennings, M.D., 47 Chestnut Street, Camden
Mustapha V. Onat, M.D., Port Clyde

KENNEBEC

John M. H. Barnard, M.D., 21 Western Avenue, Augusta
Ory D. Canal, M.D., Augusta State Hosital, Augusta
John H. Eves, M.D., Thayer Hospital, Waterville

HANCOCK

Russell G. Williamson, M.D., Blue Hill Memorial Hospital, Blue Hill

Deceased

ANDROSCOGGIN

William J. Young, M.D., Lewiston, December 8, 1957

CUMBERLAND

Alfred W. Haskell, M.D., Portland, November 28, 1957

PENOBSCOT

Leroy H. Smith, M.D., Winterport, November 26, 1957
Ernest T. Young, M.D., Millinocket, December 23, 1957

Necrology

Arnold W. Moore, M.D.
1819 - 1957

Arnold W. Moore, M.D., Chief of the Male Psychiatric Service at the Augusta State Hospital, Augusta, Maine died at the Augusta General Hospital on November 20, 1957 after a brief illness.

Dr. Moore was born in Basin Perar, India in 1891, the son of missionaries, and spent his early years in that country. He was graduated from Boston University School of Medicine in 1913 with degrees of Bachelor of Surgery and Doctor of Medicine. He had practiced medicine in Concord, New Hampshire and in Mt. Vernon and Portland, Maine. He was on the visiting staff of the Thayer Hospital in Waterville, for approximately eight years during his period of practice in Mt. Vernon. Dr. Moore spent three years on the psychiatric service at the Augusta State Hospital from 1930 to 1933. In 1948 he again entered the service of the Augusta State Hospital and from 1949 served as Chief of the Male Psychiatric Service. He was devoted to the care of his patients and rendered outstanding service to their interests.

He was a member of the American Medical Association, American Psychiatric Association, Maine Medical Association and Kennebec County Medical Society. He was a constant student and spent a month a year in postgraduate work at Harvard Medical School and at Tufts Medical School to keep abreast of recent advances in general medicine and surgery. He also attended two six month seminars in psychiatry at the Metropolitan State Hospital in Massachusetts. During World War I he served as 1st Lieutenant in the Medical Reserve Corp. and during World War II he served as an examiner of recruits for the Portland area as an expert in psychiatry.

He was a member of the Vernon Valley Lodge No. 99 A.F. & A.M., at Mt. Vernon, Maine. He was a devotee of fishing and hunting and a master fisherman.

Dr. Moore is survived by his widow Zorada Moore, and by a son William A., an attorney in New York City. He will be greatly missed by his many friends, by employees at the hospital and by his patients.

Announcements

STATE OF MAINE
BOARD OF REGISTRATION OF MEDICINE
Adam P. Leighton, M.D., *Secretary*
142 High Street, Portland, Maine

Physicians Licensed to Practice Medicine and Surgery in the State of Maine November 12, 13, 14, 1957

THROUGH EXAMINATION

Jean-Paul Bouchard, M.D., Hotel-Dieu Hospital, Edmundston, N. B.
Nicholas G. Brahos, M.D., Lower Bucks County Hospital, Bristol, Pa.
Edward F. Bridges, M.D., 156 Hillcrest Ave., W. Hartford, Conn.
Anthony L. D'Andrea, M.D., 131 Chadwick St., Portland, Me.
Sheuki Dibra, M.D., 255 Withers St., Brooklyn 11, N. Y.
Joseph H. Herson, M.D., 350 Sterling St., Brooklyn 25, N. Y.
Robert P. Johnson, M.D., 116 Sutherlan Rd., Apt. 8, Brighton 46, Mass.
Alphonse M. Mandolesi, M.D., 310 E. 24th St., New York 10, N. Y.
Jane Matuzel, M.D., Western Maine Sanatorium, Greenwood Mountain, Me.
Albert R. Rotella, M.D., 2860 Buhre Ave., Bronx 61, N. Y.

THROUGH RECIPROCITY OR ENDORSEMENT

Janet S. Barnes, M.D., Gardner State Hospital, Gardner, Mass.
Richard E. Barron, M.D., 383 Myrtle Ave., Albany, N. Y.
Thomas G. Bell, M.D., West Gouldsboro, Me.
Mary T. Dycio, M.D., 20 Ellington St., East Orange, N. J.
Bernard Edelstein, M.D., Fort Williams, So. Portland, Me.
John Harold Eves, M.D., 16 Bartlett St., Waterville, Me.
John S. Hopping, M.D., P.O. Box 35, Hanover, N. J.
Edward Kaplan, M.D., 1066 Commonwealth Ave., Boston, Mass.
Richard A. Marshall, M.D., 147 Mystic St., Manchester, N. H.
Albert M. Rogers, M.D., 58 Duff Street, Watertown, Mass.
James Warren Sever, M.D., Cape Neddick, Me.
William C. Swatek, M.D., Georgetown, Me.
Alfred W. Swett, M.D., P.O. Box 12, Winter Harbor, Me.

Maine Medical Center
Portland, Maine

Course in Clinical Electrocardiography*
Assembly Room, 7:30 P.M., Each Wednesday

Date	*Subject*	*Conducted by*
Jan. 22, 1958	The Normal Electrocardiogram	Ralf Martin, M.D.
Jan. 29, 1958	Ventricular Hypertrophy and Conduction Disturbances	Louis Bove, M.D.
Feb. 5, 1958	The Electrocardiogram in Myocardial Injury, Ischemia, Angina; Exercise Tests	Edward A. Greco, M.D.
Feb. 12, 1958	The Electrocardiogram in Myocardial Infarction	Harold L. Osher, M.D.
Feb. 19, 1958	The Electrocardiogram in Hypertension, Pericarditis, Congenital Heart Disease, Cor Pulmonale	Manu Chatterjee, M.D.
Feb. 26, 1958	Electrocardiographic Effects of Drugs, Electrolyte Imbalance Metabolic Diseases	Ralf Martin, M.D.
Mar. 5, 1958	Arrhythmias	Eugene H. Drake, M.D.
Mar. 12, 1958	The Electrocardiogram in Differential Diagnosis	Harold L. Osher, M.D.

*Approved for credit by the American Academy of General Practice under category No. 1 as set up by the Committee on Education.

ALL PHYSICIANS ARE
CORDIALLY INVITED TO ATTEND

Pineland Hospital and Training Center
Pownal, Maine
Carl Hedin General Hospital — Red Room

January 22	Lecture — Epilepsy	11:00 A.M.
January 29	Lecture — Cerebral Palsy	11:00 A.M.
January 30	Clinical Pathological Conference — Death Review and Microscopic Demonstration	11:00 A.M.

Maine Trudeau Society
Annual Meeting

Edward A. Greco, M.D. of Portland, Maine was elected President of the Maine Trudeau Society at the annual meeting of that group in November, 1957.

Other officers include the following:

Vice-President, Rudolf Haas, M.D., Lewiston
Secretary, Ernest O. Friedlander, M.D., Augusta
Delegate to the Council of the American Trudeau Society, Brinton T. Darlington, M.D., Augusta

New members elected at the time of the annual meeting are: Stanley B. Covert, M.D., Kingfield; Louis N. Fishman, M.D., Lewiston and Francis J. O'Connor, M.D., Augusta.

Continued on page 35

Woman's Auxiliary To The Maine Medical Association

Mrs. James N. Shippee, Winthrop, President

Mrs. Linus J. Stitham, the President-Elect, and I attended the Annual Conference of State Presidents, Presidents-Elect and National Committee Chairmen which opened at the Drake Hotel in Chicago on October 21, 1957. I had arrived the Friday before in order to get acquainted with the AMA and to collect material for my State Committee Chairmen. The theme of the conference was "Health is a Joint Endeavor." The conference director was Martin P. Chworowsky, Ph.D. of the University of Pennsylvania. The entire program was carried out with group discussions instead of the usual panels and lectures. The conference was officially called to order by Mrs. Craig, National President. Mrs. Underwood, President-Elect was the presiding officer. The discussions were on the objectives and activities of the Auxiliary and how they could best be carried out. In this we had the assistance of the speaker of the day, Dr. Ernest Howard from AMA, Dr. Chworowsky and other experts, each a specialist in his own field who were constantly circulating to give opinions and help. All in all it was an extremely stimulating experience and I wish every auxiliary member could attend one of these conferences. To be among these officers from all over the U.S.A. and hear about the marvelous work they are doing and the scope of their ideas, which seem to be limitless, gives you a new view of the Auxiliary.

The 2nd Executive Board Meeting of the Auxiliary was held at the Augusta Country Club on October 30, 1957. There was a good attendance and the following announcements were made: Mrs. Harry MacNeil has resigned as Bulletin Chairman, Mrs. Howard Milliken will be Today's Health and Bulletin Chairman for the State. Mrs. Donald Coulton is the State auditor for the Auxiliary. Mrs. Philip Chase will be State Convention Chairman. Mrs. Walter Russell, of Hallowell was introduced as State Safety Chairman. There was a discussion concerning the request from the Maine League of Nursing that the Auxiliary help with a state survey of available nursing scholarships. This was brought to a vote which was in the negative. It was felt that it would be better to work as individuals rather than as an organized group in helping with this project. Mrs. Maynard Colley, State Program Chairman asked each County to include the following in its program: 1. Resolutions and Policies. 2. An Orientation program with the Medical Society. 3. A program based on Group Understanding and Human Relations.

The suggested minimum amount from each county for A.M.E.F. is $50.00. It was voted to recommend that the Revisions Chairman be instructed to revise the article in the By-Laws dealing with the Annual Meeting, to wit: "And the Annual Meeting of the Woman's Auxiliary to the Maine Medical Association shall be held in the Spring at the call of the President. Each Auxiliary will send two instructed delegates, the President may serve as one; all members of the Auxiliary are invited."

Following the business meeting the group was the guest of the President at a luncheon at which time Dr. Wilson McWethey, of Augusta, spoke on Social Security.

Tuberculosis Abstract

A chest disease clinic has been in continuous operation at the Students' Health Service, University of Minnesota, since 1920. Out of 155,021 students and personnel, 7,530 have been examined in this clinic.

Tuberculosis has been the most prevalent major disease on the campus. There have been 1,055 cases of pulmonary tuberculosis, 115 of tuberculous pleurisy with effusion, and 61 with extrathoracic lesions.

Diagnostic procedures have ranged from physical examination, chest film, and bacteriology to thoracotomy and pulmonary biopsy.

The most serious problems were in the Schools of Nursing and Medicine. It was observed that first infections acquired by adults behave in the same manner as those which occur in children.

The tuberculin reaction was in evidence within a few weeks after infection and was the first sign of the presence of primary tuberculosis. Only tuberculin reactors later developed clinical disease. Periodic examinations of reactors detected clinical lesions when minimal and while in presymptom and precontagious stages. The incidence of tuberculin reactors markedly increased in 1946, due in part to the return of many war veterans from parts of the world where tuberculosis is still rife. Although the incidence again decreased, it has fluctuated because of the influx of other veterans, including those of the Korean War, as well as of students from other countries.

Clear chest films never proved absence of tuberculosis. To cast shadows, lesions must be macroscopic; have sufficient consistency, and must be in the 75 per cent of the lungs visualized on x-ray films. These facts were established from post-mortem and resected pulmonary units.

Treatment has ranged from bed-rest and pulmonary collapse to anti-turberculosis drugs and resectional surgery. Primary tuberculous infiltrates resolved regardless of how much or how little treatment was given. No case of immediately progressive primary tuberculosis was observed. Anti-tuberculosis drugs have been administered to a few tuberculin converters in recent years. Two reverted to non-reactors after one year of treatment.

Prevention has consisted of managing tuberculosis as a contagious disease. Since the early 1930's rigid contagious disease technic has been employed in the care of tuberculous patients in the University Hospital. Since 1935 all patients admitted to this hospital and the personnel employed there, have been examined for tuberculosis.

Tuberculosis was a serious problem among University personnel until 1938, when a ruling was passed requiring examination of non-academic and, in 1941, of academic employees.

The accomplishments of the tuberculosis control program on this campus have been phenomenal. In the School of Medicine, where in the classes of 1919 to 1932 eleven died and ninety-two developed demonstrable lesions, only one in the past 14 years has presented a lesion large enough to be visible by x-ray.

From:

Myers, J. A., Boynton, R. E. and Diehl, H. S.: Tuberculosis among university students: A 35-year experience, Ann. Int. Med. 46: 201-217, 1957.

The Maine Trudeau Society, Medical Section, Maine Tuberculosis Association

Postgraduate Courses at New York University
Bellevue Medical Center's Post-Graduate Medical School

The following postgraduate courses will be given or started during February, 1958.

DEPARTMENT OF MEDICINE

Modern Trends in the Diagnosis and Treatment of Congenital Heart Disease — A full-time course of three days' duration, February 3 through 5. Under the direction of Dr. Charles A. Poindexter. Tuition: $55.00.

Arthritis and Related Disorders — A part-time course of five sessions, Tuesdays, 9 a.m. to 5 p.m., starting February 11. Under the direction of Dr. Edward F. Hartung. Tuition: $85.00.

Auscultation of the Heart — A three-day, full-time course, February 24 through 26. Under the direction of Dr. J. Scott Butterworth. Tuition: $55.00.

Cardiac Roentgenology — A two-day, full-time course, February 27 and 28. Under the direction of Dr. J. Scott Butterworth. Tuition: $35.00.

DEPARTMENT IN DERMATOLOGY AND SYPHILIOLOGY

Seminar in Dermatology and Syphilology (designed for general physicians) — A full-time intensive course of five days' duration, February 17 through 21. Under the direction of Professor Marion B. Sulzberger. Tuition: $85.00.

DEPARTMENT OF ORTHOPEDIC SURGERY

Orthopedics in General Practice — A full-time course of three days' duration, February 19 through 21. Under the direction of Professor Walter A. L. Thompson. Tuition: $55.00.

DEPARTMENT OF OPHTHALMOLOGY

Annual Review of Ophthalmological Advances — A two-and-one-half day conference, 9 a.m. to 4 p.m., Thursday and Friday, and 9 a.m. to 12 m., Saturday, February 20 through 22. Under the direction of Professor A. Gerard DeVoe. Tuition: $100.00.

DEPARTMENT OF RADIOLOGY

Radiobiology — A part-time course, 5:30 to 7:30 p.m., Wednesdays, February 5 through May 28. Under the direction of Dr. Milton Friedman. Tuition: $75.00.

DEPARTMENT OF PEDIATRICS

Review of Clinical Pediatrics — A full-time course of five-and-a-half days' duration, February 17 through 22. Under the direction of Professor Adolph G. DeSanctis. Tuition: $55.00.

Clinical Pediatric Cardiology — A half-day course of 10 sessions, 9 a.m. to 12 m., Wednesdays, February 19 through April 23. Under the direction of Dr. Martin M. Maliner. Tuition: $50.00.

DEPARTMENT OF OTORHINOLARYNGOLOGY

Seminar in Recent Advances in Otolaryngology — An advanced course of one weeks' duration, February 17 through 21. Under the direction of Professor John F. Daly. Tuition: $75.00.

For further information write: Associate Dean, NYU Post-Graduate Medical School, 550 First Avenue, New York 16, N. Y.

Department Of Health And Welfare
Division Of Maternal And Child Health, Including Services For Crippled Children

Orthopedic Clinics

Portland — Maine Medical Center
9:00 a.m.: Jan. 13, Feb. 10, Mar. 10.
Lewiston — Central Maine General Hospital
9:00 a.m.: Jan. 17, Feb. 21, Mar. 21.
Rumford — Community Hospital
1:30 p.m.: Mar. 19.
Waterville — Thayer Hospital
1:30 p.m.: Feb. 27.
Rockland — Knox County Hospital
1:30 p.m.: Feb. 20.

---

when anxiety and tension "erupts" in the G. I. tract...

IN DUODENAL ULCER



PATHIBAMATE*

Meprobamate with PATHILON® Lederle

Combines Meprobamate (*400 mg.*) the most widely prescribed tranquilizer . . . helps control the "emotional overlay" of duodenal ulcer — without fear of barbiturate loginess, hangover or habituation . . . *with* PATHILON (*25 mg.*) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.

Dosage: 1 tablet t.i.d. at mealtime. 2 tablets at bedtime. *Supplied:* Bottles of 100, 1,000.

Lederle

*Trademark ® Registered Trademark for Tridihexethyl Iodide Lederle

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

Machias — Washington County Normal School
1:30 p.m.: Jan. 8.
Presque Isle — Northern Maine Sanatorium
9:00 a.m. and 12:30 p.m.: Jan. 14, Mar. 12.
Houlton — Aroostook General Hospital
9:00 a.m.: Mar. 11.
Fort Kent — Peoples Benevolent Hospital
10:00 a.m.: Jan. 15.
Bangor — Eastern Maine General Hospital
1:00 p.m.: Jan. 23, Mar. 27. (Several will be two session clinics.)

Cardiac Clinics

Portland — Maine Medical Center
9:00 a.m.: Every Friday (Holidays excepted).
Bangor — Eastern Maine General Hospital
9:00 a.m.: Jan. 10-24, Feb. 14-28, Mar. 14-28.

Cleft Palate Evaluation Clinics

Portland — Maine Medical Center
10:00 a.m.: Feb. 11.

Pediatric Clinics

Bangor — Eastern Maine General Hospital
1:30 p.m.: Jan. 24, Feb. 28, Mar. 28.
Fort Kent — Peoples Benevolent Hospital
10:00 a.m.: Mar. 26.
Presque Isle — Northern Maine Sanatorium
1:30 p.m.: Jan. 22.
Waterville — Thayer Hospital
1:30 p.m.: Jan. 7, Feb. 4, Mar. 4.

Book Review

NEW ENGLAND HOSPITALS, 1790-1833
By Leonard K. Eaton
University of Michigan Press, Ann Arbor, 1957

A professor of architecture in a mid-western college has written a book that should prove very interesting to New England doctors and hospital administrators.

Leonard K. Eaton, assistant professor in the College of Architecture and Design at the University of Michigan, has pored through institutional and official archives and personal papers to prepare "New England Hospitals 1790-1833."

A work of the University of Michigan press, the book deals mostly with Massachusetts General Hospital in Boston and The Hartford Retreat in that Connecticut city. Other hospitals are brought in for discussion and comparison but one a leader in surgery and the other in psychiatry are used to show how New England hospitals altered their society and set the pattern for administration and public acceptance.

The impetus that led to the establishment of Boston Marine Hospital in 1804, New England's first, came from the men made wealthy from the sea. They saw their sailors, many of them single boys off the farms, injured in their line of work and suffering from lack of medical care. A tax on seamen and other grants led to the establishment of this type of hospital, already a fixture in Philadelphia, the acknowledged medical center in colonial days.

The success of this institution for a particular class and the desire of three doctors, Nathan Smith, James Jackson, and John Warren, who had studied new methods of treatment in Europe, to reach more people led to the establishment of the Massachusetts General Hospital.

Eaton shows how in the establishment of this institution and the Retreat in Hartford the pattern for lay boards and administrators was set.

His lively history also shows clearly that leadership of distinguished doctors brought growth and progress to the institutions. The desire to offer better care and the willingness to experiment, the philosophy of Massachusetts General, made it no accident that Dr. Morton first used ether successfully in surgery in that institution.

For those interested in psychiatry, Eaton has probed deep in reports and personal papers to reveal why the Retreat now called the Institute of Living became a national leader in its field.

Hospital architecture, especially in mental care facilities, is scrutinized in this history and some of the floor plans are reproduced in the six plates.

However the book's greatest contribution is its carefully developed study of the factors that led to the general acceptance of the hospital as an institution. The names of such people as Amos Lawrence, Thomas Handasyd Perkins, and others which rank high in the history of the region's industrial growth are also part of the history of New England hospitals.

The close link between leadership in commerce and hospital administration is well established in this historical review which should be speedily followed by other volumes dealing with younger institutions in other New England centers.

WHY DON'T YOU GET YOUR PAY?

Over 500 physicians and 20 hospitals have increased their incomes by placing their accounts with us for adjustment, in a humane, honest and efficient manner. So can you — let us tell you how. ➤➤➤

Reference: Maine Medical Association

MEDICAL AUDITING COUNSEL

297 WESTERN PROMENADE PORTLAND, MAINE

CLIP AND MAIL

Without obligation send me full details concerning your service.

Name .....

Street .....

City .....

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, February, 1958 | Number 2

Retinal Separation In Young Adults

Richard H. Dennis, M.D.*

Detachment of the retina, if untreated, will result in blindness in practically all cases. Yet it can be successfully treated in nearly 85% of cases if discovered early. Therefore, this paper is aimed mainly at those individuals who first see these patients — their family doctors.

Separation of the retina is frequently associated only with older people. Yet it does not necessarily limit itself to this or to any other group. This fact was recalled to our attention recently when a thirty-five year old woman presented herself with a history of loss of vision. An inferior retinal separation was found. One week later, a separation was discovered in the eye of a twenty-five year old girl who came in because of "strained eyes" after prolonged close work.

A survey of our office and of the hospital files suggested itself as a result of these two cases, and all the separation cases, seen or treated in the office during the last eight years, were examined. Interestingly enough, it was found that nineteen of them, or approximately twenty per cent of a total of seventy-nine, were in individuals under 45 years of age. This percentage seemed sufficiently large to warrant the attention not only of the ophthalmologist but the general practitioner as well. It would be well for us to keep in mind the fact that separation not infrequently occurs in the young, healthy adult.

Detachment of the retina, if untreated, will result in blindness in practically all cases. Yet it can be successfully treated in nearly 85% of cases, if discovered early. Therefore, this paper is aimed mainly at those individuals who first see these patients — their family doctors. It is to this doctor that most patients first turn. It is on his advice that they depend for the future course of treatment. Early recognition of the possibility of retinal separation can possibly save a patient his eye-sight.

It is not the purpose of this paper to discuss treatment. It is simply to urge that separation be thought of and suspected early, as then the treatment is more often effective. Our data is based only on an analysis of the young adults collected from the files mentioned above.

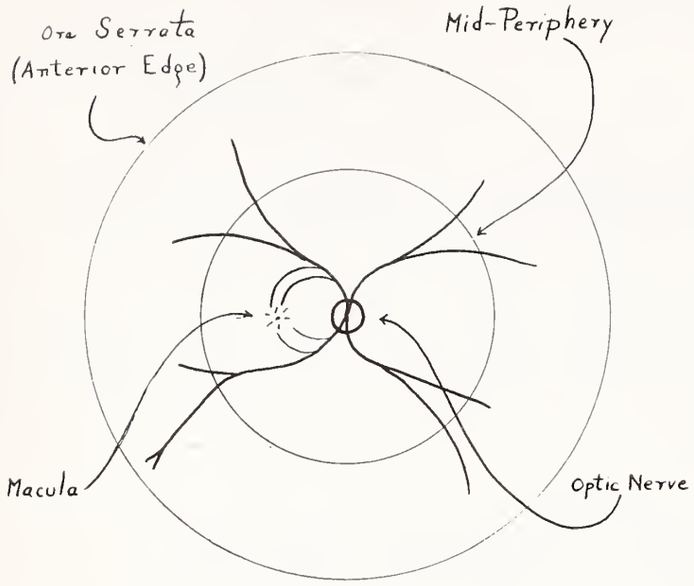
The cause of separation is largely mechanical and occurs in stages. Briefly, they are as follows: First, a hole, or a tear, appears in the retina. Occasionally, the very edge of the retina where it inserts anteriorly on the ciliary body may pull away. This is called a disinsertion of the retina. When it occurs, the next stage begins. This is the seeping of the fluid from the vitreous cavity through the break in the retina. The fluid peels the retina away from its own pigment layer. The peeled-off layer may then simply fall into the vitreous cavity in folds, or it may balloon out in a smooth round elevation containing a quantity of fluid.

Symptoms

The symptoms of retinal separation are varied, and may be minimal, involving only a mild distortion of vision; or they may be great enough to cause a total loss of effective vision. They may come on suddenly, but are usually preceded by characteristic occurrences.

A tabulation of the cases investigated showed 85%

*Ophthalmological Service, Thayer Hospital.



Diagrammatic Schema of Retina

Figure 1

of them to have noticed some form of flashes of light. This symptom may have to be elicited by direct questioning, but it can usually be found. It is caused by movement of the retina away from its accustomed location and occurs in the early stages. Flashes occasionally are reported by patients in whom no detachment is ever found. However, since it must be caused by retinal disturbances of some type, its presence must be viewed with considerable suspicion.

Floating particles or moving spots, "hairs" or "spider webs" were found to be conspicuous symptoms. They occurred with approximately as much frequency as the flashes of light. They antedated the flashes in many cases. Many authors, such as Dr. Paul Chandler, consider floating opacities of serious import and a frequent precursor of detachment, especially when a large number occur at one time. He feels strongly enough about this to request return visits of patients who present visible evidence of floating opacities, in order to rule out the possibility of later retinal separations.

The degree of impairment of the vision varied in this group, but with one exception some was present in all. The minimal complaint was simply a slight blurring of vision. In 16% of the cases actual distortion of objects was reported, indicating some slight elevation of the macular area. (Fig. 1.) More serious complaints, seen in 31% of the patients, involved the appearance of a peripheral failure of field vision, often referred to by the patient as a veil or a curtain. This veil is caused by a separation of the retina to such an extent that a large segment of it projects into the vitreous cavity. The retina may balloon out smoothly, or it may simply fall away in folds. In either case the vision is gone in the separated area and it appears to the patient that something is obscuring the vision in this area.

Complete loss of central vision was the original complaint in approximately 50% of these cases. This always should suggest the possibility of separation. It is caused either by the tearing away of the macular area of the retina or by the obscuring of the macula by an overhanging fold of peripherally detached retina. It is a serious prognostic symptom, especially if the cause is the tearing away of the macula itself.

It is well to ask the patient if he sees better in the early morning on rising. He usually does because the retina has settled back somewhat into place during sleep. When he arises the vision becomes worse as the retina is again pushed away by the seeping down of the sub-retinal fluid. This morning improvement of vision is a frequent characteristic symptom and was present in 40% of our young adults.

These patients do not have pain. The nerve elements involved are those for the reception of light and do not have pain sensory fibres among them. None of these cases had any pain.

Although difficult to elicit, and not frequently found, a prior history of head trauma or of trauma in general is very helpful in establishing the diagnosis of retinal separation. A definite history of trauma was present in only 33% of these cases.

Objective Findings

The objective findings commonly expected in retinal separation vary somewhat. Externally there usually is little to help. These eyes are not red or abnormal in appearance. On the involved side there may be a slightly larger pupil due to lessened light sensitivity and the eye may deviate from the straight position due to loss of vision, but this usually occurs later.

Visual acuity is usually impaired to some extent. The last two patients could read the 20/20 line, but there was some distortion, easily recognizable by the patient as abnormal. Most of the patients however have vastly diminished vision, down to light perception. In our series 18% of the patients had pre-operative vision of 20/20, 33% had 20/70 or better; the rest could only count fingers or perceive light.

Simple ophthalmoscopic examination of the eye itself will often be extremely helpful. The retinal findings are more likely to be away from the macular and disc area, in the mid-periphery or further out. There usually are some whitish raised folds of separated retina. (Fig. 2.) These are most likely to be in the area of greatest elevation, usually the inferior part of the eye. If there are not actually folds, the retina may be seen somewhat elevated from the choroid and its vessels. It may be mobile and undulate with each eye movement. It will have a cobblestoned or irregular surface, unlike the smooth shiny appearance of the intact retina. Even though the elevation may be slight, the vessels will usually appear darker and more convoluted. Sometimes this unusual darkening of the vessels may be the first sign pointing to the separated area. Occasionally a large

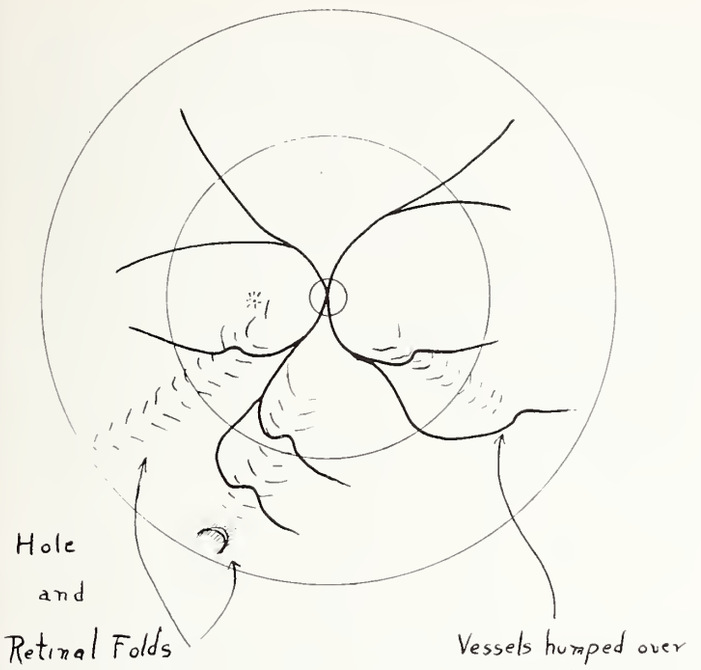
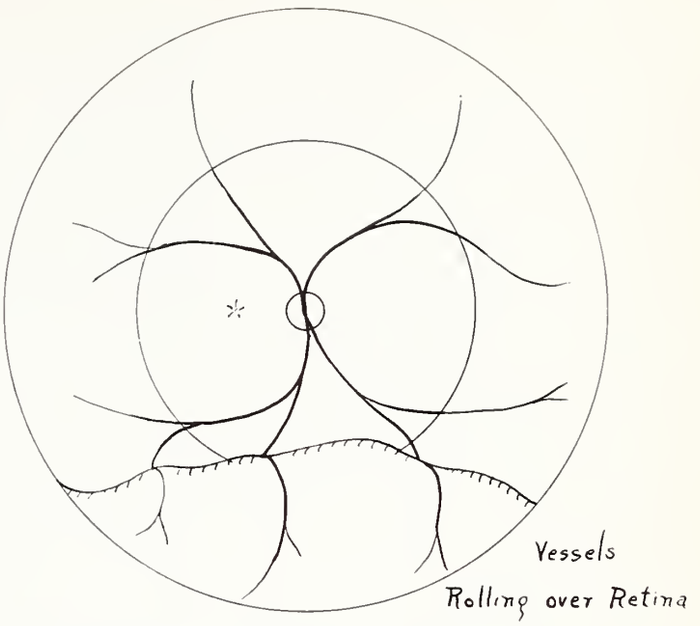


Figure 2



Ballooning Separation Inferiorly

Figure 3

smooth ballooning separation can be seen even in early stages. (FIG. 3.) Not infrequently one can see the torn area in the retina, which is of course the crucial finding, it is this tear which has allowed the fluid to seep behind the separated area. Often there is not only one but several holes, especially in retinas presenting an otherwise somewhat degenerated appearance.

Fields, even done grossly, may be of great help. There is an immediate defect in the area involved and it usually is fairly large. A simple confrontation field, wherein the patient fixes on the eye or nose of the examiner facing him may often be helpful. The examiner places his hand out to the side and behind the patient's field of view, so that the latter cannot see the examiner's fingers. The patient closes one eye and while looking straight ahead, signifies when he can first see the examiner's fingers as they are slowly brought forward. A continuous, slight back and forth movement of the fingers helps the patient to identify them from the steady arm and hand of the examiner as he moves it forward into the patient's field of view. Several successive areas of the peripheral field may be tested quickly in this fashion.

While there are other findings which can be ascertained, the above are the salient ones which should arouse enough suspicion to cause the patient to be sent for more positive diagnosis.

SUMMARY

In summary then, this paper is (1) an analysis of the early signs and symptoms of retinal separation in young adults; and (2), a plea for early recognition of retinal separation in all patients who report a recent loss of vision without pain.

Some of the salient symptoms and signs as observed in this small series can be tabulated as follows:

A. Symptoms frequently associated with early separations:
   1. Flashes of light.
   2. Floating opacities — recently noted, usually in showers.
   3. Visual acuity disturbances.
      a. Blur only
      b. Distortion only
      c. Loss of field sector
      d. "Veil or Curtain"
   4. Morning improvement of vision.
   5. No pain.
   6. History of trauma.

Some signs frequently seen or easily elicited:
   1. Larger pupil — deviated eye, although this may not come until later.
   2. Lowered or lost central visual acuity, as listed on the vision chart.
   3. Ophthalmoscopic findings.
      a. Ballooning of the retina
      b. Whitish, elevated folds, or sharp white lines
      c. Rough cobblestone appearance
      d. Darkened vessels — more tortuous than usual
      e. Actual tears, holes or degenerated areas
   4. Field loss as determined by the confrontation test.

33 College Avenue, Waterville

Drug Reactions

Samson Fisher, M.D.*

The incidence and severity of drug reactions appears to be on the increase. . . . To contend with this medically induced disease it is necessary . . . to appreciate the frequency of occurrence, to know the drugs which are the most frequent offenders, to understand the conditions under which they are most likely to occur, and to recognize the condition when it does occur.

Drug reactions have become of ever-increasing significance in the practice of medicine. This is due primarily to the increase in synthetic pharmaceuticals. That these drugs are efficacious and often serve a dire need is obvious. However the fact that they frequently can be harmful is equally obvious; and it is incumbent on the physician to recognize, avoid, or contend with drug reactions when they occur.

What Is a Drug Reaction?

Various terms are generally applied to the untoward effects of drugs. *Side effects* usually refer to undesirable pharmacologic actions. *Idiosyncrasy* refers to an infrequently observed effect of a drug, which is inherent in the drug, and may be a pharmacologic action. Examples would be tinnitus from small doses of salicylates, keratoses from arsenic, or a stimulating effect from sedatives. *Toxic effects* indicate the type of response seen in idiosyncrasy when due to an overdosage, or any other metabolic effect not basically allergic. *Sensitivity* and *hypersensitivity* are vague terms. They are often incorrectly used synonymously with allergy. They are more often used when the mechanism of action is not understood, and a vague term is preferred. *Allergy* should be used to describe a specific entity. An allergic reaction occurs only when an antigen-antibody mechanism can be presumed to be present. The factor of quantity is usually not significant in an allergic reaction, as it is in regard to idiosyncrasy or toxic effects. When the mechanism of reaction is understood, specific terms to describe it should be used.

What Is Not a Drug Reaction?

In dealing with sick people an unpredictable and unanticipated course of events may occur. A sudden skin rash or blood dyscrasia may develop in the natural course of the disease, or may occur as a drug reaction. Aplastic anemia or agranulocytosis may occur as a complication of various severe infectious diseases[1] and malignancy; and these conditions similarly may occur as a reaction to the drugs prescribed for the disease. Confusion is more likely to result if the sickness is undiagnosed before therapy is started and if complications or coexistent disease are not recognized. Frequently a disease may present as a fever of undetermined origin, or a blood dyscrasia may become manifest as an acute infection. If potent medications are prescribed and subsequently such a condition as jaundice or agranulocytosis appears, the cause and effect relationship may defy understanding. Historically there are many examples of misinterpretation. Cincophen was once in the discard as a hepatotoxin, and has recently been exonerated.[2] Chloromycetin® appeared to be highly lethal at first; but better evaluation over a period of time demonstrated it to possess no exceptional hazard.[3] Confusion arose from presuming to interpret small series. Undoubtedly many patients dying of acute yellow atrophy during the era of arsenical therapy for syphilis were victims of serum hepatitis, rather than the toxic effect of arsenic. Brown[4] has discussed this confusing problem extensively.

Examples: A patient receiving Gantrisin® for a bladder infection twice developed a purpuric eruption, thought due to the medication. Over a period of time it became evident that the purpura resulted when the infection flared, and more adequate doses of the drug in fact prevented recurrences.

A young lady was seen with an eruption that appeared to be hives together with a blotchy macular rash. She was taking aspirin for malaise. When the drug was stopped the hives disappeared, and it became evident that she had measles.

In reading case histories of drug reactions, it appears that the drug is frequently incriminated because of circumstantial evidence. It may in fact be a drug reaction; but the proof as presented is largely a matter of the physician's interpretation. On the other hand

*Thayer Hospital, Waterville

many reactions undoubtedly occur which are mistakenly attributed to the disease under treatment; or a reaction may not be reported because the doctor feels he has inadequate proof on which to commit himself.

Diagnosis of Drug Reactions

Diagnosis requires a high degree of suspicion. The prescribing physician should know the potential of various drugs for causing reactions, and must be alert to their development. Allergic drug reactions may be explosive in onset. The fact that the patient has previously shown a normal tolerance for the drug may be misleading. The presence of the drug in abnormal quantities in body fluids or tissue may be significant in toxicities; but has no bearing in questionable allergic reactions. Skin tests for drugs are notoriously unreliable. In fact, where positive tests have been observed following anaphylactic penicillin reactions, the test may quickly revert to negative in a few weeks. However this is no indication that the state of sensitivity has been lost. Passive transfer tests constitute a safer procedure; but have no greater validity than direct cutaneous testing.

Patch tests, when appropriate, and when interpreted properly, have a high validity. When a contact dermatitis is produced by topical medications, a patch test is likely to be positive. False negatives may be obtained because the test does not reproduce actual usage. Therapeutic application may have been on damaged skin, with a greater degree of contact, heat, friction, perspiration, and absorption. Drugs taken systemically and causing a contact-like dermatitis may give a positive patch test. To the extent that the patch test is an exposure test, it is definitely not without hazard in a highly sensitive patient. The patch test is not appreciably effected by ACTH or cortisone.

Rarely is it possible to obtain laboratory confirmation of a drug reaction. A precipitin test has been developed for the thrombocytopenia due to quinidine.[5] It is possible to demonstrate L.E. cells due to hydralazine reactions. Undoubtedly the most valid test, and one that is generally avoided, is to reproduce the reaction by readministering the drug.

Patterns of Reaction

Systemic reactions[6] offer many difficulties in diagnosis; and often are impossible to distinguish from the disease under treatment. Any system may be involved; and many disease entities may be simulated.

Of the various types of drug reactions, skin eruptions[7] are obviously most easily observed and recognized. Suffice to say that drug reactions may simulate almost any dermatologic disease. A few reactions are sufficiently distinctive to be readily diagnosed. Some of these are lichen planus from atabrine; lupus erythematosis-like reaction from hydralazine; Hamman-Rich syndrome from hexamethonium; gangrene due to ergot; keratoses from arsenic; granulomas from bromine or iodine; and argyria from silver.

Mechanisms of Reactions[8]

This subject is probably the most interesting aspect of drug reactions, and the least written about. Allergic reactions are most often the basis for the skin and systemic patterns observed. Only rarely can the antigen-antibody mechanism be confirmed by tests; but the whole development so frequently follows known allergic patterns as to make this a virtual certainty. Some drug reactions are on the basis of the Arthus phenomenon or the Schwartzman reaction. The former is an allergic reaction. The latter is more likely explained as an example of traumatized tissue being highly susceptible to further damage, following exposure to nonspecific irritants. This is probably the explanation for a case seen recently. There was intense flaring of some pigmented, atrophic skin, which was the site of healed varicose ulcers, in the presence of an otherwise mild phenobarbital rash. The Jarisch-Herxheimer reaction is thought to result from the massive destruction of organisms with the release of toxic material. This was frequently seen in the treatment of syphilis. Theoretically this should occur only once in a course of treatment. Erythema of the ninth day, has an obscure cause; and may be the result of a superimposed infection.

Disorders resulting from ecologic changes may be more properly classified as complications rather than reactions of drugs. Examples are seen in the emergence and overgrowth of saprophytes when other bacteria are destroyed by antibiotics. Even though this entity may not belong in this discussion, it must be considered in evaluating whether the rectal and anal irritation following the administration of tetracylines is directly due to the drug or to moniliasis. Biotropic changes due to drugs are questionable. The thought is that drugs may promote the growth of various organisms not by virtue of the ecologic effect, but by being utilized as a nutritional substance. Various drugs act as histamine liberators. Hives will result, but in this situation the hives are not on an allergic basis. The ill effects of intravenous contrast media may be due to iodide sensitivity. In some instances the reaction is thought due to a chemical vasculitis produced by contact irritation. Such effects at the site of injection are not unusual; but apparently this can occur in vulnerable vessels at distant sites, such as the cerebral vasculature. A variety of drugs, such as sulfonamides, gold, chlorpromazine, and tar, may act as light sensitizers.[9] Dermatitis results only after adequate exposure to sunlight or ultraviolet. An understanding of this combination of effects is necessary; since it may be possible to administer the drug with im punity if exposure to direct light is avoided.

Some drugs interfere with, and alter, existing enzyme systems.[10] This is frequently the mechanism

whereby drugs assert a lethal effect on organisms; and it may be the mechanism whereby some drugs produce their harmful effects on tissues.

Course and Prognosis

Drug reactions may occur with a sudden and violent onset once the patient has become sensitized. An anaphylactic reaction is likely to vary in intensity with the time interval following administration; that is, the longer the interval, the less intense the reaction. Some reactions, such as the keratoses from arsenic, may occur years after the medication has stopped. When a patient is exposed to a drug for the first time, an interval must elapse for sensitization to develop. In serum sickness for example, this usually varies between ten and fourteen days. With many drugs, if a sensitivity is going to develop, it is likely to occur early in a course of continuous treatment. With other drugs, as horse serum, the incidence of reactions increases with the quantities used and with repeated use. With certain drugs such as those producing blood dyscrasias, reactions may occur at any time; so that doing blood counts at frequent intervals early in a course of medication, and at more widely spaced intervals later, may give a false sense of security. Some chemicals, such as formaldehyde, apparently become fixed to tissues; so that a dermatitis produced by formaldehyde foot soaks may persist indefinitely. When an element is normally present in the body tissues such as iodine, it may account for reactions from these drugs being prolonged. Penicillin reactions may run a protracted course. Depot preparations, by virtue of their persistence in the tissues, and the adjuvants used, are more likely to produce reactions; and the reaction may be more prolonged in contrast to oral preparations.

If a reaction persists beyond three or four weeks it becomes necessary to consider whether multiple sensitivities have been caused to light up; and whether these rather than the penicillin are prolonging the reaction.

Generally there is little fluctuation during the course of a reaction. The usual course is for symptoms to progress to a peak, persist for a varied period, and then subside. Spontaneous relapses are said to occur without further exposure; but must be quite infrequent. In the presence of repeated or marked fluctuation of symptoms it is necessary to assume further exposure to the drug, or the involvement of secondary factors.

The duration of sensitivity is difficult to evaluate. In the case of horse serum, sensitivity is not only usually permanent, but repeated exposure is likely to produce increasingly violent reactions. With penicillin the situation is unpredictable. Numerous patients are encountered who have had reactions to penicillin; but have taken the drug subsequently with impunity. This is partly explainable on the basis of the variation in preparations, their purity, and variety of adjuvants. In any case it is evident that the sensitivity produced is often of short duration.[11]

In classical immunization experiments producing sensitization, the quantity of the dose, the frequency and mode of administration, and adjuvants used, together with the unpredictable variation in animal susceptibility, all effect the outcome of the experiments. In practice the physician is unknowingly, and without controls, carrying out such an experiment in administering drugs.

Treatment

Prevention of reactions is obviously the aim. With a history of a previous drug reaction, the same drug should never be administered again if substitutes are available; and chemically similar drugs should be suspected. Skin testing prior to administration is a reliable procedure for horse serum, but undependable with most other drugs. With some drugs only when a sensitivity is suspected, and routinely with others, a test should be done if only for medico-legal reasons. In a report on penicillin reactions by Tuft, only a small percentage of patients showed positive skin tests immediately afterward. Of these, the test reverted to negative within a few weeks. However this conversion cannot be taken as an indication that sensitivity is no longer present. It should be recognized that in most cases a negative test cannot rule out the presence of sensitivity.

Positive cutaneous or mucosal tests must be evaluated for what they are worth. By virtue of the fact that the drug is in many instances a primary irritant when injected intradermally or when applied to a mucosal surface, false positive local reactions frequently result. Such a test without a control is meaningless. A systemic reaction would be incontravertible evidence of sensitivity. Prudence would require that the drug be withheld in the presence of any positive reaction, unless there is confirmatory evidence that the reaction is false, or that only an inconsequential reaction can be anticipated.

In many situations it may be possible to give minute trial doses in gradually increasing quantities, with all facilities available to contend with a reaction. If a mild reaction is anticipated, it may be adequate to administer antihistamines or adrenalin simultaneously with the drug. It must be borne in mind that these protective medications may only act to delay an anaphylactic reaction, and will not ordinarily prevent a delayed reaction. Patients who have had anaphylactic reactions from intravenous contrast media, have had the procedure safely repeated while protected by ACTH.[12] Desensitization has been carried out satisfactorily with horse serum, insulin, and other drugs. A trial dose, however minute, may be sufficient to produce a significant reaction.

The allergic patient and any patient with a previous drug reaction must be held under special suspicion. If a drug has never been given before, a first dose

should not produce an immediate reaction unless sensitivity has been established to another similar chemical. When serial doses are administered, if the first dose does not produce an immediate-type reaction, subsequent doses are unlikely to; but a delayed reaction may develop. When a reaction occurs, the type of drug, brand name, and any other identifying information should be specifically obtained and given to the patient in writing. Chemically similar drugs should be itemized, and their sources explained. The sensitive patient must be educated in regard to drug reactions; and made to assume part of the responsibility for the future avoidance of reactions. The severely sensitive patient should wear a charm bracelet with an engraved warning.

Pendergrass[13] in a discussion of reactions to contrast media, gives an excellent and detailed account of the emergency procedures and equipment necessary for contending with anaphylactic reactions in a hospital.

The active treatment of reactions depends on their intensity and rapidity of onset. Fatalities from anaphylaxis can occur in minutes. Epinephrine is unquestionably the most reliable medication when an immediate effect is desired. It can be given intravenously or subcutaneously, the needle can be left in situ indefinitely, and repeat doses given at frequent intervals as indicated. In the presence of shock, absorption can be assured only by intravenous administration. When giving medications by injection, the arm rather than the hip is to be preferred. This makes it possible to observe more quickly any unusual local reaction, and to place a tourniquet above the site of injection in the event that a reaction occurs. Adrenalin can be injected into the site of the original medication to delay its absorption, and to counteract its effect. Antihistamines parenterally or by mouth are helpful. A delay of at least several minutes before this takes effect can be expected; but any effect obtained is subsequently prolonged. Parenteral or oral steroids may also be indicated. There may be a delay in hours before a desirable response occurs.

All the supportive measures for contending with shock may be indicated, such as oxygen, plasma, heat, intubation, artificial respiration, and vasoconstrictors.

A mild urticarial reaction may be completely controlled with antihistamines. If a prolonged reaction is anticipated, as in serum sickness, and it is sufficiently severe, steroids may be desirable. Skin eruptions are treated symptomatically. It goes without saying that the drug causing the reaction should not be used for treatment. This situation actually arises at times. When a contact dermatitis is due to topical antihistamines, the same agent has been administered orally to combat the itching. When a contact dermatitis occurs due to penicillin, this complication imposed on a previously infected skin area may not be recognized, and systemic penicillin may be administered to combat the infection.

When a reaction occurs, the type of drug, brand name, and any other identifying information should be specifically obtained and given to the patient in writing.

It may be possible to force the elimination of some drugs, such as bromides, with chlorides and diuretics, or some metals with Bal. Other metals may be inactivated with sequestrating agents.

Summary

The incidence and severity of drug reactions appears to be on the increase, presumably because the newer drugs have a greater potential for producing sensitization. To contend with this medically induced disease it is necessary first of all to appreciate the frequency of occurrence, to know the drugs which are the most frequent offenders, to understand the conditions under which they are most likely to occur, and to recognize the condition when it does occur. Some of the mechanisms of reactions have been explained, and some suggestions made regarding prognosis and treatment. Treatment is largely symptomatic and supportive, combined with avoidance procedures. Anticipation of reactions and their avoidance is extremely difficult; so that in administering any drug the indications for its use should always outweigh the assumed risk.

References

1 Untoward Reactions to Antibiotics, H. A. Shoemaker, P. G. Med., 20:A 36, 1956.
2. Acute Yellow Atrophy of the Liver, Editorial, J.A.M.A., 133: 1156, 1947.
3. Advances in Antibiotic Therapy, J. W. Haviland, Ann. Int. Med., 39: 307, 1953.
4. The Reporting of Drug Toxicity, E. A. Brown, Ann. All., 14: 206, 1956.
5. Hematoxic Reactions to Drugs, W. Damashek, P. G. Med., 16: 369, 1954.
6. Penicillin Reactions, R. Kern, Am. J. Med. Sci., 226: 357, 1953.
7. Allergic Dermatoses Due to Drugs, M. B. Sulzberger & V. H. Witten, P. G. Med., 11: 549, 1952.
8. Mechanisms of Cutaneous Drug Reactions, A. Rostenberg, Jr., & J. Webster, J.A.M.A., 154: 221, 1954.
9. Diseases Related to Light Sensitivity, B. M. Kesten & M. Slatkin, Arch. Derm. & Syph., 67: 284, 1953.
10. Pellagrous Dermatitis Following Use of Antibiotics, G. E. Morris, Gen. Pract. Clin., 9: 71, 1954.
11. Reactions to Penicillin, C. B. White, U. S. Armed Forces Med. J., 4: 1606, 1953.
12. Prevention of Iodism in Bronchography by Use of ACTH, F. R. Park, et al, Dis. Chest, 24: 219, 1953.
13. Further Considerations of Deaths and Unfavorable Sequelae Following Administration of Contrast Media, E. P. Pendergrass, et al, Am. J. Roent., 74: 262, 1955.

173 Main Street, Waterville

UNIVERSITY OF MARYLAND

Wound Closure In Cataract Surgery

HOWARD F. HILL, M.D.*

With modern suture technique the uneasy feeling of finding a shallow chamber or a large hyphema post-operatively should be as rare as the present-day loss of vitreous, namely no more than 1%.

If we find our average above this level, we should re-evaluate our technique with critical care. Also, a third very serious complication, namely, epithelial downgrowth, except in the rarest and under the most unusual circumstances, can be completely eliminated by careful technique.

Only a passing mention will be made of the incision in spite of its great importance. Naturally a poor incision is more difficult to close properly.

LIMBAL BASED FLAP

The first important point to emphasize is the conjunctival flap. It is felt that a *limbal based flap* should always be used because:

1. It gives the best protection against deep wound contamination and epithelial downgrowth. No instruments pass through epithelial tissue. The flaps should be dissected carefully avoiding large episcleral vessels and undermined at the extremities to afford cover to *all* parts of the deep incision. If torn or buttonholed, the tear should be closed or a deep suture placed in the area to avoid the possibility of epithelial contact with a weak area of the deep wound.
   Theobald and Hass[1] have stated that a limbal based flap is the best protection against epithelial downgrowth and contamination.
   Calhoun[2] in a comprehensive study of epithelial downgrowth feels that limbal based flaps give the maximum protection. He also states than conjunctival epithelium near the limbus is of a highly proliferative nature and advises using a fairly wide flap.
2. Limbal based flaps prepared before the incision can be shaped properly, insuring proper cover. It can be closed with a simple running silk suture which can be easily pulled out when the patient leaves the hospital.

*Ophthalmological Service, Thayer Hospital, Waterville, Maine.

FORNIX-BASED FLAP

Fornix-based flaps are an invitation to the danger of epithelial downgrowth if the eye happens to have a leaky wound. There is the danger of an epithelial frill at the limbus which could be tucked into the wound, plus inadequate coverage of the extremities of the deep wound when the flap retracts.

Calhoun[3] states that fornix-based flaps should never be used because of the added risk of epithelial downgrowth. One has only to read the report of a series of enucleated eyes by Calhoun in which there was 20% epithelial downgrowth, to realize that this complication is not as rare as one would be led to believe by the clinical literature. The surgeon who does the extraction is often not the one who sends the eye to the pathologist.

PREPLACED SUTURES

The second important point is the value of properly *preplaced* sutures. The advantages of mild, chromic sutures placed in a groove are many. Our technique was reported in 1955[4] and again in 1956.[5]

Preplaced sutures in a groove are used for the following reasons:

1. The suture can be placed more exactly in apposition, both laterally and in relation to depth, on the firm, unopened eyeball. One can be sure that corresponding points of the cut edges of the groove are directly opposite each other.
2. Preplaced sutures make it possible to shorten the time between section and closure.
3. The sutures are in place and are ready to tie in the event of complications, and the open wound edges are not subjected to manipulation.

Buried, mildly chromicized 6-0 gut sutures are used in this technique for two reasons:

1. The sutures do not have to be removed.
2. The edges of the wound can be brought together under direct observation with the loupe and *without an intervening layer of conjunctiva* to obscure the view. This direct view of the edges of the deep wound is a great advantage. A spatula can be used after closure to test the tightness of the wound. If the anterior chamber is not beginning to fill after tying the sutures, the wound is not tight and additional sutures may be indicated. This advantage of direct observation of the deep wound edges cannot be stressed enough. With the loupe one can see the edges of the wound to be exactly in position, neither overlapping or crushed together by a too firm tying of the suture. Any irregularities of the wound can be visualized direct-

ly and corrected at that time and not several days later. The McLean silk suture is excellent, but one does have the disadvantage of conjunctiva between the surgeon's eye and the deep wound. Also chromic gut cannot be used safely due to the awkward stiffness of the suture material.

If the surgeon prefers to use the cataract knife instead of the easier keratome and scissors method of incision, he may well use the suture technique recently described by Stocker[6] which is a technique similiar to ours but in which the assistant holds out the loops of the suture. The disadvantages of the Graefe incision have already been described by Atkinson,[7] the author,[8] and many others.

It has often been stated in the literature that a shallow chamber for 24 or 48 hours is of no significance. We watch carefully for any degree of shallowing of the chambers from 24 hours on and feel that a shallow chamber at the *first* dressing definitely indicates inadequate closure and predisposes to hyphema, even if it closes in a day or two. If the wound is not water-tight at 24 hours, there is a leak at that time. In the last 200 cases our shallow chambers have averaged 1½%. Two of these cases had choroidal detachment eventually requiring repair, indicating an error in suture technique. Hyphemae averaged 7% with any fleck of fresh blood noted as such, but only one case had a fluid level of blood in the anterior chamber.

It is felt that *early* firm closure is important and may be the best way to prevent postoperative hyphema. A properly sutured wound should show a beginning reformation of the anterior chamber before the conjunctiva is closed. Rapid filling of the anterior chamber means rupture of the hyaloid and vitreous in the anterior chamber. In such a case if the wound is closed tightly, the least manipulation possible is indicated.

References

1. Theobald, G. D., and Hass, J. S.: Epithelial Invasion of the Anterior Chamber following Cataract Extraction, Tr. Am. Acad. Ophth., 46: 470, 1958.
2. Calhoun, F. P., Jr.: Personal Communication.
3. Calhoun, F. P., Sr.: Instructional Section — Am. Acad. Ophth., Course #118, Oct., 1957.
4. Dennis, R. H.: Preliminary Report on Corneoscleral Suture, New Eng. Ophth. Soc., April 27, 1955 (not published).
5. Hill, H. F.: Wound Closure (Movie), New Eng. Ophth. Soc., April, 1956 (not published).
6. Stocker, F. W.: Corneoscleral Gut Sutures, Am. J. O., Vol. 42, P. 730, Nov. 1956.
7. Atkinson, W. S.: Preliminary report of Corneal Section and Conj. Flap. Tr., Am. Ophth., 1947.
8. Hill, H. F.: Report of 401 Cataract Extractions with special reference to the Keratome and Scissors Incision, Tr. Am. Ophth., Soc., 1952.

AMA OFFERS AID IN BATTLING THE 1040 FORM

Don't let those income tax forms get you down! Now's the time to write to the AMA Law Department for its new booklet — "The Federal Income Tax Guide for Physicians" — for answers to some of your most perplexing tax problems. This timely new booklet has been compiled from court decisions as well as rulings, regulations and publications of the Internal Revenue Service. It has been designed to give physicians a better understanding of their rights and obligations under federal income tax laws. The Law Department staff has only one word of advice: Do not consider this booklet as a *substitute* for the services of a personal tax advisor! Incidentally, this material is also scheduled to appear in the JOURNAL OF THE AMA.

Benign Stricture Of Esophagus Simulating Carcinoma

H. Richard Hornberger, M.D.*

Carcinoma of the esophagus is not a rare disease. It accounts for 4% of the total of digestive tract malignancies.

In 1911 Franz Torek performed the first resection of the esophagus for carcinoma. The operation consisted of resection of the thoracic esophagus, with the creation of a cervical stoma and a gastrostomy. The patient, who was 69, survived 13 years and died of other causes. In the years following, neither Dr. Torek nor anyone else has been able to duplicate this result with any degree of consistency. The five year cure rate today, with a combination of surgery and high voltage X-ray therapy remains discouragingly low, in the neighborhood of 5%.

These facts have caused an almost universal attitude of hopelessness toward the disease, not only in areas where few cases are seen, but also in medical centers where it is a common problem. Until recent years any surgical attack on esophageal malignancy carried a prohibitive mortality. The general feeling was that unless there seemed to be a definite chance of cure, extensive palliative attempts were unjustified. Gastrostomies were performed and the patient consigned to his fate.

At the present time, however, better understanding of anaesthesia problems, antibiotics, and adequate blood replacement allow relatively safe removal of the tumor and esophagogastrostomy at any level. This has probably not brought about any great increase in the cure rate, but it has resulted in significant and worthwhile palliation. At least for a time, the patient is able to swallow, may have less pain, and is spared the psychological trauma of a gastrostomy. Therefore most thoracic surgeons feel that such surgery is worthwhile, even if it involves cutting through tumor, which it often does. In addition to probable worthwhile palliation, there remains the slight possibility of surgical cure.

Case Report

In the case to be presented a surgical cure was obtained in a patient whose case was thought to be hopeless. All concerned, including the operating surgeon, considered this to be carcinoma of the esophagus until it was found to be a benign stricture. This case is not necessarily presented as a justification for a surgical attitude, since it is in no way statistically significant. It is presented as an interesting case.

The patient is a 66-year-old white widow. In September 1955 she had a posterior myocardial infarct, complicated by a thrombophlebitis of the left calf. She had a good recovery from this and returned to her housework. She was well until about Easter 1956, at which time her weight is said to have been 150 lbs. She then began to have difficulty swallowing. This increased quite rapidly to the point where she could take only liquids. Her weight fell to 70 lbs. She was hospitalized and maintained for several weeks on intravenous feeding.

. . . better understanding of anaesthesia problems, antibiotics, and adequate blood replacement allow relatively safe removal of the tumor and esophagogastrostomy at any level.

In October 1956, an esophagoscopy was performed by a competent endoscopist. He found an obstructing lesion at the junction of the middle and lower thirds of the esophagus. His clinical impression was carcinoma. A biopsy revealed only chronic inflammation, but this was felt to be consistent with material taken from the vicinity of a carcinoma. This was assumed to be the correct diagnosis. The patient was told that her prognosis was poor. A gastrostomy was suggested and refused. The patient was discharged from the hospital.

In May 1957, six months after leaving the hospital, the patient could still swallow only liquids. However, she had gained 10 lbs. in weight and was better in every way than she had been. It was therefore obvious that if this were esophageal carcinoma, it was following a virtually unheard of course. She was therefore admitted to the Thayer Hospital for re-evaluation.

A repeat esophagoscopy showed the same area of obstruction. It presented a gray, friable surface which bled easily. Again the clinical impression was carcinoma. A biopsy was again non-specific. The pathologist felt that some of the cells suggested the appearance of plasma cells. A small-cell type of bronchogenic carcinoma or multiple myeloma were suggested but a definite diagnosis could not be made.

Chest X-rays were negative except for a moderate degree of emphysema. There was no evidence of a mediastinal mass. Bronchoscopy was negative. Routine laboratory tests were within normal limits. Total protein was 6.3 with a normal A/G ratio.

*Surgical Service, Thayer Hospital, Waterville, Maine.



Longitudinal incision through gross specimen showing area of constriction.

Surgery was recommended to the patient. She was told that most of the evidence pointed to a malignancy, but that her clinical course was more consistent with a benign lesion or some atypical tumor which might be amenable to surgery.

After a period at home to think it all over, she returned. Operation was performed on June 20, 1957. A midline abdominal incision was made from xiphoid to umbilicus. Abdominal exploration revealed no metastasis. The stomach was freed up on both sides, preserving the left gastroepiploic and right gastric vessels. The distal two inches of esophagus were freed by finger dissection through the hiatus. A Ramstedt type of pyloromyotomy was done. The abdominal incision was closed and the patient was placed in the left lateral decubitus position, and the chest opened through the bed of the resected 6th rib. Palpation of the esophagus revealed only an area of thickening about an inch in length at the junction of the middle and lower thirds. After dividing the azygos vein, the esophagus was freed above and below the lesion and the previously mobilized stomach pulled into the chest. The esophagus was resected from 2 cm. above the lesion down to cardia and esophagogastrostomy performed. The patient tolerated the procedure well and returned to her bed in satisfactory condition.

The *gross specimen* was described as follows: "Opening the esophagus reveals the midportion to be extremely narrow with the lumen less than 1mm. in diameter. Multiple sections through the wall in this area show no recognizable evidence of a neoplastic or invasive process. Proximal to this area of narrowing the epithelium is thickened and somewhat leukoplakic in appearance."

Microscopic examination: "Sections of esophagus show the surface epithelium to give rise abruptly to an area of pronounced ulceration with granulation tissue replacement. There is intense infiltration with fibrinopurulent exudate. The underlying wall is markedly edematous, infiltrated with chronic inflammatory cells, and diffusely thickened. At no point is there evidence of anaplasia of epithelial cells or any other specific pathological process." The summary of the report was: "Ulceration, granulation tissue, acute and chronic inflammation and fibrosis with constriction."

The postoperative course was essentially uneventful, although at first the presence of the stomach in the chest encroached on her not too great pulmonary reserve. This problem diminished as the stomach regained a certain amount of tone and emptied more efficiently. The patient took a soft diet including chopped meat on her 4th postoperative day. She was discharged on the 14th postoperative day. Since then she has resumed her normal activities. Her weight six months after surgery is 104 lbs. She eats whatever she wants.

One can only speculate as to the etiology in this case. This sort of pathological picture could have been initiated by a temporarily impacted foreign body, or by trauma from a fish bone followed by infection and fibrosis. No history of such an occurrence could be obtained.

One might also speculate as to whether less drastic treatment might have produced an acceptable result. A glance at the gross specimen, however, was convincing proof that dilatation would have been impossible and dangerous. Although only a short segment of esophagus was involved, an attempt at segmental resection would not have been justified. The case would have been ideal for some sort of esophageal prosthesis, but nothing satisfactory in this line is as yet available.

Therefore subtotal esophagectomy was, by exclusion, the treatment. The operative approach is optional. The procedure could have been performed through a left thoracic or thoraco-abdominal incision. I find it technically easier and quicker to free up the stomach abdominally and then approach the esophagus through the right chest where it is easily accessible, and where the anastomosis can be performed with relative ease.

Summary

(1) Carcinoma of the esophagus and a surgical attitude toward it are discussed.

(2) A case of benign esophageal stricture, thought to be carcinoma and treated by esophagogastrostomy, is presented.

(3) Possible etiology, alternate treatment, and operative approach are mentioned.

2 School Street, Waterville

The Problem Of The Mentally Retarded Child In Maine*

EDMUND N. ERVIN, M.D.

. . . there are four times as many retarded children as those with rheumatic fever, ten times as many as those with poliomyelitis, and fifteen times as many as those who have severe visual handicaps.

Today there is a growing realization and increasing appreciation of the physical and social problems which beset the human race. Through scientific research, advances in medical knowledge, and psychiatric understanding of many of these problems, we are making possible a healthier and more pleasant existence. An honest effort is being made to create a welcome place for the aged. The development of the specialty of geriatrics and occupational therapy are helping to make the advanced years of life more interesting and more useful. Society is endeavoring to help physically crippled children strengthen and use their malformed limbs so that as adults they can add their contribution to society. The development of the Salk vaccine will reduce the number of children crippled from poliomyelitis. Deaf and blind children are today able to live in a world in which they have been trained to adapt.

The mentally retarded are also receiving more help than ever before. These children are no longer grouped together as feeble-minded and dismissed as such. We now recognize that they are individuals with as many different facets to their personalities and mentalities as normal children. We know that with a better understanding of their personalities and mentalities and better provisions for their wholesome development, they can become social assets in a minor way, and work in a limited endeavor, rather than be institutionalized for the rest of their lives at no little expense to the State.

Three children out of every one hundred born are destined to be mentally retarded. A reasonable estimate of the number of mentally retarded children and adults in the U. S. is 3% of the population, or about 5,160,000. A conservative figure of the total number of Americans directly concerned with the problem is in the vicinity of 15,000,000, if one includes the afflicted, their parents, brothers, and sisters. In comparison with other permanent afflictions, there are four times as many retarded children as those with rheumatic fever, ten times as many as those with poliomyelitis, and fifteen times as many as those who have severe visual handicaps.

At each stage in the life of every citizen there are vital needs that must be met. First, home care, support, and training — then schooling, preparation for work and recreation, and the opportunity for employment. The needs of the retarded child run parallel at every stage: all that the normal person needs, he needs. The unsolved problems of the mentally retarded child are a threat to the emotional stability of the family group. They can be responsible for the disruption of the economic balance of that family group. When the family are unable to find a solution for their problem, they reach out for other help. This often means placement in an institution. We are all aware of the increasing cost of such care which is woefully inadequate in most of our institutions now filled beyond capacity. With the number of mentally retarded children increasing rather than decreasing, due to improved medical care and the fruits of medical research, it follows quite logically that the cost must increase.

The mentally retarded must not be confused with the mentally ill. Mental retardation may be regarded as analogous to inadequacy, and mental illness to irrationality. It exists from birth or from a very early age. A retarded child can be born into any family. Mental retardation is not a disease but a condition related to as many as 80 or 100 different disease categories. It cannot be determined solely by mental tests but its diagnosis depends upon exceedingly careful clinical studies.

Facilities must be available for special tests and diagnosis as well as services for parent counseling and guidance in training and accepting these children. We have come to know that most retarded children do not need institutional care and that their problems can be solved more satisfactorily within some type of family

*An Account of the Work of the Maine Committee on the Problems of the Mentally Retarded Child.

group. When services are available in the community, the retarded child need not become a useless burden or a social problem. These services cost the taxpayer least when they are provided for the retarded child living at home in the community.

With all this, some children will need the more costly care of an institution. The institution must provide all that the home would have provided. The institution must take the more difficult cases, hence must provide more medical care, more skillful and extensive treatment and training. Thus institutions must be costly in any case. An institution equipped to treat and train its patients can help them to develop as fully as possible. Then, if they must remain in the institution as adults, they will be able to care for their own needs, thus lessening the necessity of costly attendance. Many will be able also to contribute to the work of the institution and some will eventually be capable of going out to earn their living in the community. Thus the endless building of more and bigger institutions may be reduced.

Formation and Purposes of the Maine Committee

The new knowledge about the retarded child, the recognition that in Maine, too, the problems existed and were growing ever more pressing, brought into being in 1956 the Maine Committee on Problems of the Mentally Retarded. This Committee was organized by a group of citizens, assisted by advice from several members of the State government, including Senate President Robert N. Haskell and Dr. Roswell P. Bates of the Governor's Council. Governor Edmund S. Muskie approved its formation and summoned the members into session, welcoming them in person, in the Senate chamber in Augusta on January 7, 1956. The members of the Committee serve without pay and have also borne all expenses to date. Three members are also members of the Legislature. The rest are citizens interested in the problems for a variety of reasons — personal, professional, and benevolent. The Committee members come from various parts of Maine and various sections of the citizen body.

The purposes of the Committee are as follows:

1. To study the problems of the mentally retarded in general.
2. To determine the approximate number of the retarded in Maine.
3. To discover what measures are being adopted in other States.
4. To find out what has already been done for the retarded in Maine and what should be done for them, in each of the following fields:
   a. Diagnosis and evaluation.
   b. Public school classes, private schools, and teacher training.
   c. Vocational adjustment and employment.
   d. Institutional care at the Pownal State School (hereafter known as the Pineland Hospital and Training Center, its name having been changed by the recent Legislature).
5. To develop an over-all view and work toward a plan for providing integrated state services with a minimum of over-lapping.
6. To make available its findings to the Legislature.

To carry out these purposes, the Committee divided itself into subcommittees, each of which studied a particular problem. It is the joint report of all the subcommittees and of the full committee which forms the basis of the present article.

SUB-COMMITTEES

Incidence of Mental Retardation

The Sub-Committee on Incidence of Mental Retardation in the State of Maine had before it, at the beginning of its work, an established classification of the retarded and an estimated percentage of the retarded in the population of the country as a whole. Mentally retarded children are classified for purposes of education into three broad groups depending upon performance or intelligence tests and on evaluation by clinical studies. The groups are not sharply divided — they shade into each other. It is usual to distinguish these three:

1. CUSTODIAL OR DEPENDENT RETARDED. This type of child will have the mind of a baby or a toddler all his life. He often may be trained, however, to care for his own needs, and this is very important to those who will care for him.
2. TRAINABLE RETARDED. This child will have the mind of a young child even in adulthood. Roughly, his I.Q. will range between 30-50. He can be trained to be cooperative and willing, and to do simple work.
3. EDUCABLE RETARDED. This child will have ½ to ¾ average intelligence in adulthood. In this State for purposes of education, this child has been defined by regulations of the Department of Education as having an I.Q. between 50-75. His potential mental capacities may be developed through education and training to the point that they make him socially competent. He is capable of a considerable degree of independent existence and can contribute to his own living.

The three types are not equal in numbers. It is estimated that of all children:

VERY FEW are custodial: perhaps 1 in 30 of retarded children are custodial, or one-tenth of 1% of all children.

FEW are trainable: perhaps 1 in 7 of retarded children are trainable, or four-tenths of 1% of all children.

MOST are educable: about 5/6 of retarded children are educable or 2½% of all children.

In Maine it is estimated that there are 185,000 school-age children in public and private schools com-

bined. Using the above percentages of retarded children, we may estimate that there are in Maine:

185 custodial retarded children between the ages of 5-18 years.

740 trainable retarded children between the ages of 5-18 years.

4625 educable retarded children between the ages of 5-18 years.

A total of 5550 retarded children of all degrees between these ages. Of these 5500 children, about 450 are in the Pineland Hospital and Training Center, exactly 446 children were in residence there as of June 1956. Thus an estimated 5100 retarded children of school-age are living at home in Maine communities.

In addition, there are in Maine about 30,000 preschool children of whom again 3% or 2700 are probably retarded. None of these are in Pineland. Adding this figure to the 5550 school-age children, we have 8,250 retarded children aged 18 or below in Maine.

These figures are only estimates based on data collected in other areas. To determine the incidence accurately, a thorough-going study by a team of professional personnel would be needed, entailing considerable time and money. The Sub-Committee on Incidence agreed that, for the present, an attempt should be made to check the estimates by doing a few spot checks in particular parts of Maine using as sources of information the local superintendents of schools, physicians, osteopathic physicians, principals of parochial schools, public health nurses, and welfare workers. Proceeding in this manner, the Committee's spot check studies came up with the following data:

Bar Harbor — 2.5% of the school population
Mt. Desert — 2.7% of the school population
Waterville — 2.8% of the school population

Bangor & Brewer — The spot check here concerned itself with the severely retarded child, i.e. the trainable and dependent child whose I.Q. are below 50 and who was 18 years of age or below.

As has been said, it is estimated that trainable and dependent children combined made up .5% or ½ of 1% of all children. The check agreed with this roughly estimated incidence, giving .45% of Bangor and Brewer children as severely retarded. This did not include children from Bangor and Brewer who were resident at the Pineland Hospital and Training Center or in out-of-state private schools; with these added, the figure would be above the estimated incidence of severely retarded.

In each community it is believed there were some retarded children who were missed. Within the limits of the data, therefore, the incidence in Maine roughly approximates the percentages noted in other areas throughout the country. The Sub-Committee on Incidence, therefore, feels that its estimates for Maine of 5550 retarded children of school-age, and of over 8,000 retarded children of all ages, are correct within reasonable limits and form a usable basis for estimating the extent of the need for services.

Other States' Programs

The Sub-Committee on Other States' Programs undertook to survey the services to the retarded available across the nation, and to present its findings for reference of what might be done in Maine. Attention was directed to the programs of such states as Massachusetts, New Jersey, and Connecticut. Vermont, it was felt, should also be especially considered. From such analyses, we hoped to find standards by which to measure our own provisions. The committee believed we should not feel here in Maine that, because our state is financially less able than other states, we can do less for the retarded. It is states like Maine that can least afford to leave our retarded untrained, to be a continuing and increasing burden on the taxpayers.

Testing and Diagnosis

The Sub-Committee on Testing and Diagnosis found very early in its work that in Maine almost no organized method of finding, testing, and diagnosing mentally retarded children exists. Except for the Pineland Hospital and Training Center, which was doing pre-testing of applicants prior to committment, agencies which do provide testing seem to offer little in the way of help to the child or parent. Until recently, the Portland area has had the best clinic (the State Mental Hygiene Clinic) which has seen annually 70-100 cases of all kinds, and has carried over about 30 cases. The retarded have been seen only incidentally and constitute about 1/5 of the total. This clinic, however, was closed to the general public in 1957. Similar facilities are offered in other communities through visiting State Mental Hygiene clinics, but these, too, are not intended for the retarded as such and provide no follow-up guidance, or parent counseling. Some diagnostic evaluation is offered on a very small scale in the Pediatric clinics sponsored by the Division of Maternal and Child Health. Some testing and advice is available at the two state hospitals and at the University of Maine.

In general, the Committee found, services must be improved by addition of the needed follow-up and counseling. Secondly, clinics must travel, i.e., must be held on regular schedules in all parts of the state, including rural areas. And, since many more children must be served, a minimum of three full-time, fully-staffed clinic teams must be provided as soon as practicable. One should be supplied immediately. At this point, a piece of very good news was made public. Through Federal funds, the Division of Maternal and Child Health was starting a demonstration clinic for the mentally retarded pre-school child. The clinic was to be held monthly at the Thayer Hospital. The professional staff includes a Pediatrician-in-charge, Psychiatrist, Psychologist, Speech Therapist, Nutritionist, Psychiatric Social Worker, and Public Health Nurse.

Utilizing the team approach, the clinic would provide diagnostic evaluation, guidance, parent counseling, and follow-up. Unfortunately, this clinic meets only once a month, does not travel about the state, and will be seeing only the pre-school child. But since, with this added service, so tiny a part of the need would be met, the Committee still felt it necessary to proceed immediately with the one proposed full-time traveling clinic, and so recommended to the Legislature. Funds for such a clinic, which would serve all the mentally retarded children in the whole state, were not provided in this recent Legislative session.

Public School Classes, Private Schools, and Teacher Training

The Sub-Committee on Public School Classes, Private Schools, and Teacher Training considered what education was available for retarded children in Maine. Here the Committee found a situation that seemed much more hopeful, though even here years would elapse before most retarded children could be served.

In 1956 there were in Maine three private schools for the retarded, the proud achievements of units or prospective units of the National Association for Retarded Children, of which more will be told. The Pride Training School in South Portland had 48 children; the Garcelon School in Lewiston had 15; and the Children's Opportunity Center in Bangor had 12. Many of these children were trainable. Waterville now has a class run by the Central Maine Association for Retarded Children with eight pupils.

Public opportunities had also increased. In 1955, Maine's Legislature had appropriated funds for hiring more teachers at Pineland and for putting up a school building there, where previously there had been none. The same Legislature had passed the first Maine law encouraging local school boards to establish public school classes for educable retarded children by offering State subsidies to help pay the costs. Maine had been very late in doing this. Thirty-five years earlier, Massachusetts had passed a similar law and through the years many other states had done the same. Many states were already providing classes for the trainables, too.

By 1956, much had already been accomplished under Maine's new laws. At Pineland, children were spending less of their time in meaningless idleness, though some still were receiving only 7½ hours a week in classes. In all, out of about 1000 patients who could benefit, 243 were receiving some academic or vocational training, and 786 (with some overlapping) were being given at least a little recreational activity.

New public school classes were also beginning to appear. Long before 1955, a few forward-looking school boards had already been providing special classes which in whole or part served retarded children. But now, in 1956, the new subsidies were aiding 21 classes for the retarded in 11 Maine communities, serving 300 children, and were also helping provide home instruction in 17 communities for 35 individual retarded children. Standards for teachers had been established, though as yet these were low. Through its single State Supervisor, the State Department of Education was providing suggestions for program improvements, some supervision, and much consultation to Superintendents interested in starting new classes.

The classes were of varied kinds. In Portland, Lewiston, and Auburn, there were the beginnings of classes organized on three levels — for elementary, intermediate, and older pupils. Sometimes a relatively large community had but a single class. Some classes limited severely the ages served. Two operated only in the afternoons. Some included children who needed special help for other reasons. Many of the teachers were only partly trained.

Yet despite the deficiencies, great progress has been made. Out of the 4,000-odd educable retarded children estimated as needing it, 335 were being given local training. Further expansion was, and is, to be expected, as more towns become aware of the opportunity the system offers them. The subsidy for classes for the educable child has been increased by the recent Legislature as follows:

	1957-58	1958-59
Department request	$100,256	$123,502
Governor's budget	81,934	102,272
Actual appropriation	99,934	112,272

Maine still lacks any program of education for trainable and very young retarded children. One is needed beyond doubt. But the Committee felt that Maine must first provide for more of its educable children; then trainables and young children should be given state-subsidized classes where they can learn to cooperate with others, to care for their own needs, and to do simple tasks as well. Since trainables are far fewer than educables, probably such classes will be possible only in the larger towns and in cities. In the meantime, the Committee believed that private classes such as those already operated by the associations for retarded children, and by privately sponsored play groups, might be the best plan; and that, when such classes meet state requirements, state subsidy should soon be provided for the enrolled trainables, as well as the educables.

Teachers for these classes are desperately needed. In Maine, the teacher-training institutions have not as yet provided any courses in teaching the retarded as part of their regular curricula. A few summer courses and extension courses have been offered. Thus no teachers are or will be prepared to do this work unless they invest extra time and money in obtaining the needed extra training, which at present is the equivalent of one summer's work in special education.

The Committee recommended that, as soon as possible, the deficiencies at the teachers' colleges and university be made good. In the meantime, the Committee urged that state scholarships should immediately

be offered to teachers willing to take the extra training, and that they be encouraged to attend one of the many excellent summer-session programs where demonstration classes of retarded children are available. Upon this recommendation, the Legislature has appropriated $8,000 for the next biennium, for teachers' scholarships to be financed equally by the State and the community employing the teacher.

Vocational Adjustment

The Sub-Committee on Vocational Adjustment studied training, placement, and supervision for employment for the retarded in Maine. They found great progress in two areas in 1956.

At the Pineland Hospital and Training Center, a new work-placement program had been in operation for about a year. It had kept over 200 retarded older children and adults outside the institution earning their board, and often earning wages, too. Social workers from Pineland were finding the jobs, interviewing the employers, arranging and supervising the placements. The services cost the State around $20,000 a year, but they saved the State the cost of providing accommodations for the 200 patients. This program made room at Pineland for other patients. In addition, the patients not only benefited by the experience but earned over $80,000 for themselves. The Committee found, however ,that the low salaries offered by the State to its employees, including social workers, were jeopardizing the continuance of this program.

Another state agency was also offering help. Aided by Federal funds the Division of Vocational Rehabilitation was making a new effort to enable retarded persons living in Maine communities to find and keep jobs. A vocational counselor was traveling about Maine, investigating what could be done in this hitherto neglected field and seeking out retarded persons who could become employable. What he was finding was partly discouraging. Too often, the retarded person who had grown up without the benefit of special class training had neither good work habits nor the right attitude toward work. Those who had received it were far more likely to benefit from vocational training and placement, even though their mental ability might be less.

Therefore, the Committee recommended very strongly the continuation of the Vocational Rehabilitation program and of the work-placement program at Pineland. However, the Legislature did not appropriate funds for the services of the Vocational Rehabilitation Counselor. They urged an increase in the salaries of State employees so that workers could be hired and retained, to carry on both of these programs. It also felt that the need to prepare retarded children for useful lives was another reason for helping to train teachers of the retarded, and for expanding the public school special classes at all levels, particularly on the high school level, where emphasis could be laid on vocational readiness.

The Committee looked forward to a day when it might be advisable to establish a special State agency or to authorize an existing one, such as the Child Welfare services, to supervise and assist the retarded who are at work in the communities in Maine. For more immediate assistance in placement, it suggested that labor-management conferences be held to educate the leaders of both groups on the advantages of assimilating the job-trained mentally retarded into the labor force.

Pineland Hospital and Training Center

The Sub-Committee on the Pineland Hospital and Training Center concerned itself with the problems and facilities at our State institution for the retarded. Pineland Hospital and Training Center, until 1957 known as the Pownal State School, is the only institution in Maine for the retarded. It serves, or is intended to serve, as a hospital and treatment center for those retarded who are ill, physically handicapped, and emotionally disturbed. It is also the State's only treatment center for emotionally disturbed children below the age of 12 who are potentially mentally normal. It must be a school and training center for those retarded who can benefit from such services. For some, as we have seen, it provides vocational training, placement, and supervision. Finally, it serves as a home for those incapable of being trained and for those who have finished their training and are not placeable in the outside world.

Pineland has about 1500 resident patients of all ages from 5 years up, of whom about 450 are 18 years or below. In short, it houses none of Maine's preschool retarded, about 1/12 of the school-age retarded, and perhaps 1/24 of the adult retarded. If we divide them by mental level, about 1/2 are custodial cases, a little less than half are trainable, and about 1/3 are educable or, as with some of the emotionally disturbed, of normal mental ability.

In keeping with its varied functions, Pineland's staff is also varied, including physicians some of whom are psychiatrists, pediatricians, psychologists, teachers, social workers, nurses, attendants, cooks, maintenance workers, and many others. About 430 workers are now authorized. But since all patients need supervision and care, most need training, and many have multiple handicaps, while many have been institutionalized because they presented special problems that made it impossible to keep them in the community, even this large number is far from adequate. Many children get little of the specialized attention they need, and often one attendant must supervise 50 or more patients for many hours together.

Pineland is located in the countryside between several small towns and is about 20 miles from Portland and a similar distance from Lewiston. Buildings con-

sist of residence halls for large groups of patients, an administration building, a dining hall and assembly building, a hospital and a hospital annex, and a school (these last two under construction in 1956); and various auxiliary buildings, such as a dormitory for employees, houses for a few of the staff, a laundry, a power house, and several farm structures. Grouped together and surrounded by beautiful pines, the buildings present a pleasant picture of a well situated and complete community.

Such, however, is not the case. Serious lacks are schools for the children of the staff members, stores, and recreational facilities to meet the needs of employees and their families who must live in this isolated area. The alternative of commuting some 20 miles is equally difficult, and almost no public transportation is available. This is one of the reasons why at times it is impossible to hire even all of the workers Pineland is authorized to employ, and why those who are hired often leave quickly to seek work elsewhere, subjecting the patients to unsettling changes and reducing efficiency. Parents of patients, too, suffer great inconvenience, and the patients suffer because they have fewer visitors.

Pineland's isolated location cannot be changed. But other deficiencies can be made good, and here the Committee found wonderful signs of progress. Since 1953, Pineland has benefited from great changes in the attitude of the Department, the Legislature, the Governor, and the citizen body. A new Superintendent has been able to make notable improvements, setting new standards of medical and psychological care, education, social work, and religious and recreational services. There is the beginning of research, so necessary if more of Maine's children are to be spared the handicap deficiency.

But in 1956 the Committee found serious lacks still remaining to be remedied.

A prime need stressed by the Committee is for changes in the regulations covering the pay scales for State employees. Only if this is done can the authorized number of employees be hired and their training and fitness be maintained. It is pointless for the Legislature to provide funds for hiring employees while leaving standing regulations which make it impossible to hire them. The recent Legislature has granted raises to all State employees but Dr. Peter Bowman, Superintendent of Pineland, feels that they are not realistic in some instances and therefore may prove to be inadequate in attracting and keeping professional and non-professional personnel.

Much can be done by adequate appropriations, and these the Legislature in 1955 began to provide. In 1957 further increases are much needed. The Committee recommended under operating expenses provision for employing a clinical director, a physician who by supervising young resident physicians at the school, would enable the school to obtain such physicians.

The Sub-Committee has also examined the budget for Pineland for the next biennium for which it gave enthusiastic support. The results of legislative appropriation for the operating budget for the current biennium are as follows:

Department request	$2,035,916
Governor's Budget Recommendations	1,864,381
Actual Appropriation	1,861,545

This recognition by the Legislature of the needs of Pineland will allow 430 attendants; higher food expenditures, to permit adequate diet in the face of rising costs; improvements to the laundry to provide more clean clothes and linens; changes in the water main, heating system, electric wiring, plumbing and in the sewerage system.

It was realized that a much needed treatment building to house the out-patient clinic and psychological treatment services should be constructed. In the budget for capital improvements were included: a gymnasium for physical education, three cottages for employees, a garage, two disturbed-patients' buildings, two buildings for helpless, custodial cases, and two "Home Life" cottages where older boys and girls nearly ready to leave the institution can learn to live in a house instead of a dormitory and so be prepared for life in the community.

The following funds were appropriated by the recent Legislature for capital construction:

Department Request	$4,800,000
Governor's Budget Recommendation	1,508,365
Actual Appropriation	1,550,365

This appropriation will not allow construction of the gymnasium, garage, employees' cottages, or infirmaries. What we do have is a progressive achievement, that will allow a treatment building, one disturbed-patients' building, and one "Home Life" cottage.

These gains are encouraging, but let us compare the percentage of overcrowding and the appropriation for capital construction received by three State institutions:

	Overcrowding	*Appropriation Received*
Augusta State Hospital	21%	47.5% of request
Bangor State Hospital	6.1%	99% " "
Pineland	60%+	32.5% " "

If Pineland is to continue its recent progress, we must continue to publicize its needs and educate the public to the ever-increasing demands which are being put upon the institution.

Dr. Bowman proposed certain statutory changes with which the Sub-Committee agreed. These were as follows:

1. Voluntary commitment in cases where the parents are responsible and the child has not been committed because of delinquency.
2. The age of possible commitment or entry should be lowered practically to birth, to permit early

start of treatment where this is judged necessary by a responsible physician.

3. It should be made possible to transfer trial-visit patients, after two years' successful adjustment in the community, to local Child Welfare supervision. They must have supervision yet we do not need to send Pineland's social workers such distances. Their social workers have accomplished a miracle, keeping an average of 200 older patients outside the institution all year.
4. Mental deficiency should be made a reportable condition.

Here again the Legislature demonstrated its understanding and appreciation of the work being done at Pineland by changing the Statutes in the first three instances. No bill was introduced to make mental deficiency a reportable condition.

Finally, the Committee asked the Legislature for legal establishment of itself with an expense account to continue the work which it had started. This, too, was granted.

Several recommendations were made by the Committee which were not presented to the Legislature, feeling that they deserved further study. Some of the problems with which the Committee will concern itself in the future are as follows:

1. Continued appreciation and recognition of Pineland's needs.
2. Provision of state subsidies for trainable mentally retarded children enrolled either in approved, nonprofit private schools or in special public school classes for trainable children.
3. Establishment at the teacher training institutions in Maine of more advanced and specialized courses needed for training teachers of the retarded in the State.
4. Preparation by an appropriate State agency of educational programs to be presented to civic groups and social organizations, to promote public understanding of the problems of the retarded; these programs to be partly by means of visual aids such as films.
5. Expansion of public school special classes on high school level with emphasis on vocational preparation.
6. Clinics for evaluation and parent guidance for mentally retarded children of all ages, fully staffed and operating throughout the whole state.

In proposing an integrated program for the retarded child, we must offer special services to offset his particular handicaps. This will be the continuing work of the Committee. We hope that medical science can aid in the prevention of conditions which result in mental retardation. For the child who is with us, we need the best facilities available and qualified personnel for these children who will require care throughout their lifetime.

2 School Street, Waterville

NEW LAWS MAKE SPECIAL EDITION IMPORTANT MEDICAL DOCUMENT

Physicians everywhere are urged to watch for, and file for future reference, a special edition of the A.M.A. Journal, which will be dated February 15 and mailed with the Journal of that date. It marks the first time that a special edition of the Journal has been published.

The special edition, consisting of 117 pages, is a guide to the evaluation of permanent impairment of the extremities and back.

This edition is an important medical document because evaluation or rating of permanent disability has long been recognized as a complex subject. In the past much confusion has resulted from inadequate understanding by physicians and others of:

1. The scope of medical responsibility in evaluation of permanent disability, and
2. The difference between "permanent disability" and "permanent impairment."

The preface of the guide states: "It is vitally important for every physician to be aware of his proper role in the evaluation of permanent disability under any private or public program for the disabled. It is equally important for him to have the necessary authoritative material to assist him in competently fulfilling his particular responsibility — the evaluation of permanent impairment."

The guide, which defines commonly-used terms in programs for the disabled, is the work of the committee on medical rating of physical impairment, which was appointed by the Board of Trustees in September 1956. This is actually the first of a series of guides which the committee hopes to develop with the assistance of outstanding consultants.

Extra copies of the special journal edition will be printed and available for groups and organizations vitally interested in the broad subject of disability.

Chlorothiazide

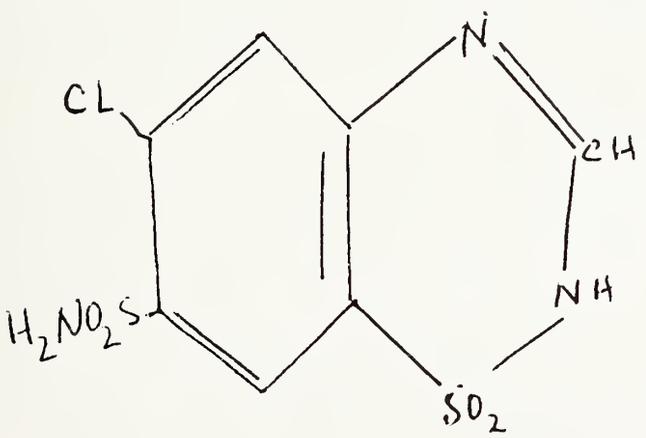
A Nonmercurial Diuretic Agent

PAUL H. PFEIFFER, M.D.*

The exciting discovery by Mann and Keilin[1] that sulfanilamide inhibited carbonic anhydrase opened up a new field of clinical investigation. Careful studies by Pitts[2] subsequently showed how the Na^+ ion could take the place of the H^+ ion in the urine when carbonic anhydrase was not active. The resulting saluretic-effect** relieves dependent edema due to a variety of causes. Many chemicals have been tested for this effect, and of these acetazoleamide (Diamox®) has so far been the one to receive most extensive clinical trial. Chlorothiazide*** is a carbonic anhydrase inhibitor which has been demonstrated to have (a.) low toxicity and (b.) potent sodium-excreting capacity in preliminary clinical observations. There is strongly suggestive evidence that this substance may also prove of value in the treatment of hypertension. This is surprising since the original animal work showed no blood-pressure effects even after large doses.

It is the purpose of this report to review the available data on chlorothiazide; and briefly to present my own limited clinical experience with this drug.

The structural formula for chlorothiazide (6-chloro-7-sulfamyl-1,2,4-benzothiadizine-1,1-dioxide) appears below:



It is worth noting that the thiadiazine molecule of chlorothiazide is similar to the thiadiazole molecule found in acetazoleamide (Diamox). Perhaps their similar action on carbonic anhydrase depends on this factor. However, the electrolyte excretion patterns of these two drugs show marked differences. Both stimulate sodium excretion. Only chlorothiazide produces a chloride diuresis — behaving in this regard like a mercurial diuretic. At the same time, the metabolic acidosis which acetazoleamide (Diamox) tends to produce by virtue of bicarbonate-excretion[3] is much less noticeable after chlorothiazide administration. Finally, potassium loss, as is the case with mercurials, is more pronounced when chlorothiazide is used.

It is the purpose of this report to review the available data on chlorothiazide; and briefly to present my own limited clinical experience with this drug.

Chlorothiazide is supplied in 500 mgm. tablets. The usual dose is one to four tablets per day. It remains effective on repeated administration. It is no more effective parenterally, suggesting good absorption from the gastro-intestinal tract. Diuresis begins within two hours, reaches a maximum at about four hours, and lasts six to twelve hours after oral administration. Toxicity is low. Animals exposed to prolonged, high doses demonstrated no significant damage to renal, hemopoietic, nervous or biliary-gastro-intestinal systems. Excretion takes place largely by way of the urinary tract. Comparing chlorothiazide to other diuretic agents, Ford, et al[4] found that 1000 mgm. (two tablets) of chlorothiazide were the equivalent in diuretic potency of 40 mgm. (Hg) of mercurial agent (1cc. of parenteral drugs) or 8 tablets of chlormerodrin (Neohydrin®).

Besides its usefulness as a saluretic agent, it has been claimed by Finnerty,[5] Freis,[6] and Hollander[7] that it can be efficacious in the reduction of elevated blood pressure. According to Hollander, 75% of hypertensives treated with chlorothiazide in combination with other agents respond favorably, with an average drop in blood pressure of 32/21 mm. of Hg. One of their patients was diagnosed as having malignant hypertension. He had not responded to splanchnicectomy and two recently introduced autonomic-ganglia-blockaders. The average blood pressure reading prior to chlorothiazide was 240/130 mm. of Hg. On two occasions, separated by placebo administration, the blood pressure fell to an average

*Thayer Hospital, Waterville

**Sodium-excreting

***Commercially available as Diuril.® Supplied by Research Laboratories, Merck, Sharp & Dohme, West Point, Pennsylvania.

figure of 140/90 on a regime consisting solely of 375 mgm. of chlorothiazide per day.

My own experience with this compound is limited. During the past three and one-half months I have administered it to 12 ambulatory patients, two of whom were lost to follow-up. Of the remaining 10, all have taken the drug for at least one month. The subjects included six males and four females, ranging in age from 41 to 73 years with an average age of 56. There were five with arteriosclerotic and/or hypertensive heart disease in various degrees of failure. Two had rheumatic heart disease and one cor pulmonale. Two had hypertension without heart failure. No chemical or electrolyte determinations were performed. Response was judged on the basis of the following criteria: 1. Relief of presenting complaint (dyspnea, ankle edema, orthopnea etc.). 2. Ability of patient to relax salt restriction without aggravation of symptoms. 3. Reduction in need for parenteral diuretics. 4. Reduction in blood pressure.

Using these qualitative criteria, the eight patients who presented signs of congestive failure all obtained a satisfactory to excellent response. The two hypertensive cases have as yet failed to respond. One 52-year-old man with rheumatic heart disease, peripheral edema, severe dyspnea and orthopnea formerly required injections of mercuhydrin once or twice a week. He noted extreme weakness the day after the injections. He has been subjectively and objectively much improved since he started to take 4 tablets of chlorothiazide per day, and has had no mercury for the past seven weeks. Three patients were much relieved of choking and gagging spells on exertion and two had satisfactory control of their edema. The other two were made miserable by their salt restriction and have been pleased to find that they can balance a little salt with a chlorothiazide tablet or two.

Two of the patients developed signs of digitalis toxicity which may well have represented an excessive potassium loss produced by the drug. This was easily remedied by an adjustment in the dose of digitalis and supplementary potassium. One patient became depressed. This has been described as a possible toxic effect and should be watched for. Her symptoms were readily controlled with a small dose of euphoriant medication. There was no evidence of gastro-intestinal disturbance.

Conclusions

1. Chlorothiazide is a carbonic-anhydrase inhibitor whose electrolyte excretion pattern is similar to that which follows mercurial administration.

2. It is non-toxic, effective by mouth and produces a diuresis in a variety of conditions characterized by salt and water retention.

3. There is suggestive evidence that it may prove beneficial in the treatment of hypertension.

References

1. Mann, T. and Keilin, D.: Sulphanilamide as specific inhibitor of carbonic anhydrase, Nature, London *146*: 164, 1940.
2. Pitts, R. F.: Renal regulation of acid base balance with special reference to mechanism for acidifying urine (Abraham Flexner lecture), Science *102*: 49, 1945.
3. Maren, T. H., Mayer, E. and Wadsworth, B. C.: Carbonic anhydrase inhibition: I. pharmacology of Diamox, Bull. Johns Hopkins Hosp. *98*: 159, 1956.
4. Ford, R. V., Moyer, J. H., and Spurr, C. L.: Clinical and Laboratory observations on chlorothiazide (Diuril), Arch. of Int. Med. *100*: 582, 1957.
5. Finnerty, Frank A., Jr.: Modern therapy of hypertension, New York Jour. of Medicine *57*: 2957, 1957.
6. Freis, E. D., and Wilson, I. M.: A preliminary note on the potentiating effect of chlorothiazide (Diuril) in combination with antihypertensive agents, Med. Annals of the District of Columbia *26*: 468, 1957.
7. Hollander, W., and Wilkins, R. W.: A new type of drug for the treatment of arterial hypertension, Boston Medical Quarterly *8*: 69, 1957.

14 Gilman Street, Waterville

ILLINOIS TIGHTENS LICENSING: In a move to crack down on quacks and unlicensed practitioners of the healing arts, Illinois has tightened its medical practice act in a number of ways. Not only have penalties for violators been increased, but examinations have been made more difficult. Provisions have been made for the publication and widespread distribution of an annual roster listing all licensed physicians. The roster will contain up-to-date information on suspended and revoked licenses. Other states are being alerted to expect an influx of unqualified practitioners driven out of Illinois by the new regulations.

Chronic Ulcerative Colitis
A Case Report

ARTHUR McQUILLAN, M.D.*

Since 1875 chronic ulcerative colitis has been a disease that has demanded much attention, from internists and surgeons alike. When a physician makes this diagnosis, he is expressing a grave opinion from the standpoint of both the patient and himself. He is likewise accepting a serious responsibility, when he accepts the care of such a case. This disease is impartial to either sex and no age is exempt, although the greatest number of instances occur in the second to the fourth decade of life.

Authorities pretty much agree that there is no specific etiological factor present. *Predisposing factors* are the associated infections in the upper respiratory tract, and the intestinal infections so commonly experienced following these attacks. Dietary deficiencies, including lack of vitamins, inherited tendencies and communicability likewise play no recognizable role.

The *pathology* seems to present four stages; (1) diffuse inflammation with numerous small hemorrhages in the mucous membrane; (2) edema of the mucous membrane with easy traumatization; (3) miliary abscesses, and, (4) miliary ulcers. The portions of the large intestine most severely involved are the distal segments. Late in the disease, the inflammatory changes may appear in the terminal portion of the ileum, and also the rectum.

DIAGNOSIS

The diagnosis is made from the history, the physical examination, and the proctoscopic examination, the results of which are quite characteristic in well over 90% of the cases. The roentgenologic examination is also characteristic and varies with the virulence and stage of the disease, and the presence or absence of complications. The laboratory findings are likewise quite constant. The hemoglobin is depleted more than the erythrocyte count. The sedimentation rate is almost always elevated and the differential count rarely shows abnormality. Chemically there is an extensive reduction in serum protein determination. Rarely a reversal of the albumin-globulin ratio and often a striking reduction in serum potassium determination is present.

Sigmoidoscopic biopsy is extremely valuable but hazardous, and great care in choosing the site of biopsy must be observed.

*Surgical Service, Thayer Hospital, Waterville, Maine.

The *complications* most commonly seen are hemorrhoids, rectal abscesses, erythema nodosum, uveitis, polyposis, arthritis, extensive phlebitis, malignant change, massive hemorrhage and bowel perforation. Renal damage becomes apparent by the presence of albuminuria, hematuria, edema and increased blood urea.

The treatment still is, and always has been, divided into two phases, medical and surgical.

TREATMENT

The treatment is greatly influenced by the particular stage in which the disease is first discovered. Usually these two types of treatment must be carried on simultaneously in order to handle these cases successfully.

Chronic ulcerative colitis is a disease of no known etiology. It is a slowly progressive malady characterized by acute relapses and remissions, and all through its course the patient complains of frequent attacks of diarrhoea associated with varying amounts of loose stools which contain blood, pus and mucous. Eventually the patients lose color, weight and strength. They do not, as a rule, suffer much actual pain unless a complication develops but the presence of an extra number of bowel movements, together with an alarming intestinal hemorrhage, will literally scare them into seeing a doctor.

CASE REPORT

With this brief and rather sketchy introduction I would like to present the following case history: A single female telephone operator, age 24, entered Thayer Hospital March 24, 1947, with the admitting diagnosis of; Fistula in Ano; Retroverted Uterus; Endocervicitis.

Present Illness: When seen for the first time at the office, one week prior to above date, she complained of increasing leukorrhoea and dysmenorrhea of two years duration. Two months previously she developed a very painful swelling near her rectum, which soon broke, discharging foul pus, which alleviated the pain. The discharge persisted.

Physical Examination disclosed a retroverted and retroflexed uterus, chronic endocervicitis and a fistula in ano. Her general health otherwise was good. At operation the cervix was cauterized, the uterus replaced after a D. & C. and insertion of a Hodge pessary, and the fistulous tract in the rectum laid wide open and packed with vaseline impregnated gauze. She was discharged from the hospital April 1, 1947, improved, and finally discharged from my office June 14, 1947 recovered.



New rapid-acting ACHROMYCIN V Capsules offer more patients consistently high blood levels—at no sacrifice to the broad anti-infective spectrum of ACHROMYCIN Tetracycline, its low incidence of side effects, or its dosage and indications.

The pure, unaltered crystalline tetracycline HCl molecule of ACHROMYCIN, now buffered with citric acid, provides



MYCIN*V

Tetracycline HCl Buffered with Citric Acid

prompt and high blood levels, faster broad-spectrum action ...rapidly decisive control of infections. New ACHROMYCIN V Capsules do not contain sodium.

REMEMBER THE V WHEN SPECIFYING ACHROMYCIN V

CAPSULES: (blue-yellow) 250 mg. tetracycline HCl (buffered with citric acid, 250 mg.); 100 mg. tetracycline HCl (buffered with citric acid, 100 mg.). **ACHROMYCIN V DOSAGE:** Recommended basic oral dosage is 6-7 mg. per lb. body weight per day. In acute, severe infections often encountered in infants and children, the dose should be 12 mg. per lb. body weight per day. Dosage in the average adult should be 1 Gm. divided into four 250 mg. doses.

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK Lederle

*Reg. U.S. Pat. Off.

The leukorrhoea had disappeared, her dysmenorrhea was definitely better, and the fistulous tract healed with fair to good control of her bowel movements and no rectal discharge.

On February 17, 1948, she was referred to me at this time she complained of loose stools, 3 to 4 a day — no blood, pus or mucous. Barium Enema done on February 24, 1948, was reported as; "There is no evidence of obstruction or deformity. Double contrast films shows no evidence of ulceration. There is some spasticity."

Proctoscopic examination showed the mucous membrane to be thin, reddened and easily traumatized. She had good sphincter control. She was referred back to her family physician with these findings and was not seen or heard from again until February 24, 1956, 8 years later. She was admitted to Thayer Hospital, February 26, 1956, with an admitting diagnosis of chronic ulcerative colitis, incompetent sphincter control, and secondary anemia.

The interval history follows: In the fall of 1948 she had had an appendectomy, right oophorectomy performed. The wound healed uneventfully. Her abdominal discomfort and frequent stools continued. In 1952 her tonsils were removed because of chronic foci of infection. Following this she began to have more frequent stools, at times containing blood, pus and mucous, lost some weight, and after a course of medical treatment, improved. She became married and one and a half years ago was delivered by forceps of a 6 pound 9 ounce baby that is living and well. Since then she has had no control of her rectal sphincter. Her stools were becoming progressively more frequent both day and night and she had lost weight, strength and color. She had had several admissions to various hospitals in Maine, and finally to one in Boston where the diagnosis of chronic ulcerative colitis was made after proctoscopic and roentgenological examinations. She entered the Thayer Hospital to have her general physical condition checked, to be proctoscoped and checked roentgenologically, to determine the extent and amount of involvement of disease in her colon, then to be prepared for definitive treatment, namely total colectomy and a permanent ileostomy.

This 33-year-old patient weighed only 96 pounds and her general physical examination showed some pallor, slight tenderness in her abdomen, more over the left colon than elsewhere, a 3rd degree lacerated perineum, and a sphincter with no muscle control. Two days later a biopsy from the rectosigmoid showed acute and chronic ulcerative colitis. Hemoglobin 13.2, red blood count 4,400,000, white blood count 5,400. Urine negative except for a slight trace of acetone. She received castor oil as part of her routine x-ray procedure. This was followed by profuse diarrhoea, rectal bleeding, abdominal distention and severe abdominal pain. She became dehydrated, her blood pressure dropped, her temperature rose, and she developed a rapid weak pulse. Another x-ray subsequently showed free air beneath both diaphragms.

The electrolytic imbalance was corrected, she was given antibiotics, and transfusions of whole blood. Later a pelvic abscess was drained, and a caecostomy performed, her condition admitted of no other surgical procedure at that time. She slowly improved, her drainage ceased and her peritonitis subsided, and her hematocrit returned to 43. She was afebrile and when discharged had only two to three normal stools, via the caecostomy, daily, and the rectal discharge was practically nil. She was receiving Prednisone,® 5 mg. four times daily, and had gained 4 pounds, weighing 80 pounds, when discharged.

Her final diagnosis April 4, 1956, was chronic ulcerative colitis, perforation of the bowel, peritonitis, pelvic abscess, status post-caecostomy.

She re-entered the Thayer Hospital October 29, 1956, weighing 107½ pounds, having improved mentally and physically. The excoriation and perineal pruritis had subsided. Her caecostomy was functioning but had developed a stenosis which was surgically corrected. Proctoscopic examination showed the mucous membrane to be edematous, polypoid and bled easily, but no ulcers were present. The sigmoidoscope was passed to the hepatic flexure and only thin, reddened and easily traumatized mucous membrane seen. This was a very definite improvement. She was discharged five days later. Her steroids had long since been discontinued and her only medication was one Stress capsule® a day.

Just about one month later she had a mild exacerbation of her previous symptoms — mucous appeared at the caecum and rectum, and she expressed a keen desire to have the definitive surgery postponed until spring.

Her next admission was July 19, 1957. She had recently experienced another exacerbation of uveitis, her weight had dropped to 94½ pounds, and she realized that the side-tracking procedure was unsuccessful in quieting down the colon. After again receiving transfusions and steroids, she had this definitive surgery carried out on July 29, 1957. A total colectomy, with the exception of excision of the anus and rectum was done. Because of severe shock, this latter procedure was postponed until August 16th, 1957.

It was most interesting to note the following findings at this exploration. This patient had had a descending colon perforation and a general adhesive peritonitis with a large residual pelvic abscess as reported. But at operation, the only adhesions encountered were those from the 1948 appendectomy and right oophorectomy and the caecum was naturally adherent in the right lower quadrant. There were flecks of barium everywhere. The omentum was not stuck to the ileum or jejunum, or they to each other. There were no adhesions about the liver, gallbladder or stomach. This has been observed before following peritonitis from bowel perforations and one marvels at times at Nature's wonderful repair. The mid-portion of the descending

colon was slightly adherent to the left lateral abdominal wall. The tubes and left ovary and uterus were somewhat adherent in the pelvis.

The pathological examination showed no evidence of malignancy, only acute and chronic ulcerative lesions with extremely scarred and thin areas present. The caecum, terminal ileum, anus and rectum were reported as showing no gross or microscopic pathology. She was discharged August 29, 1957, with the ileostomy functioning very well and the perineal sinus draining less and less.

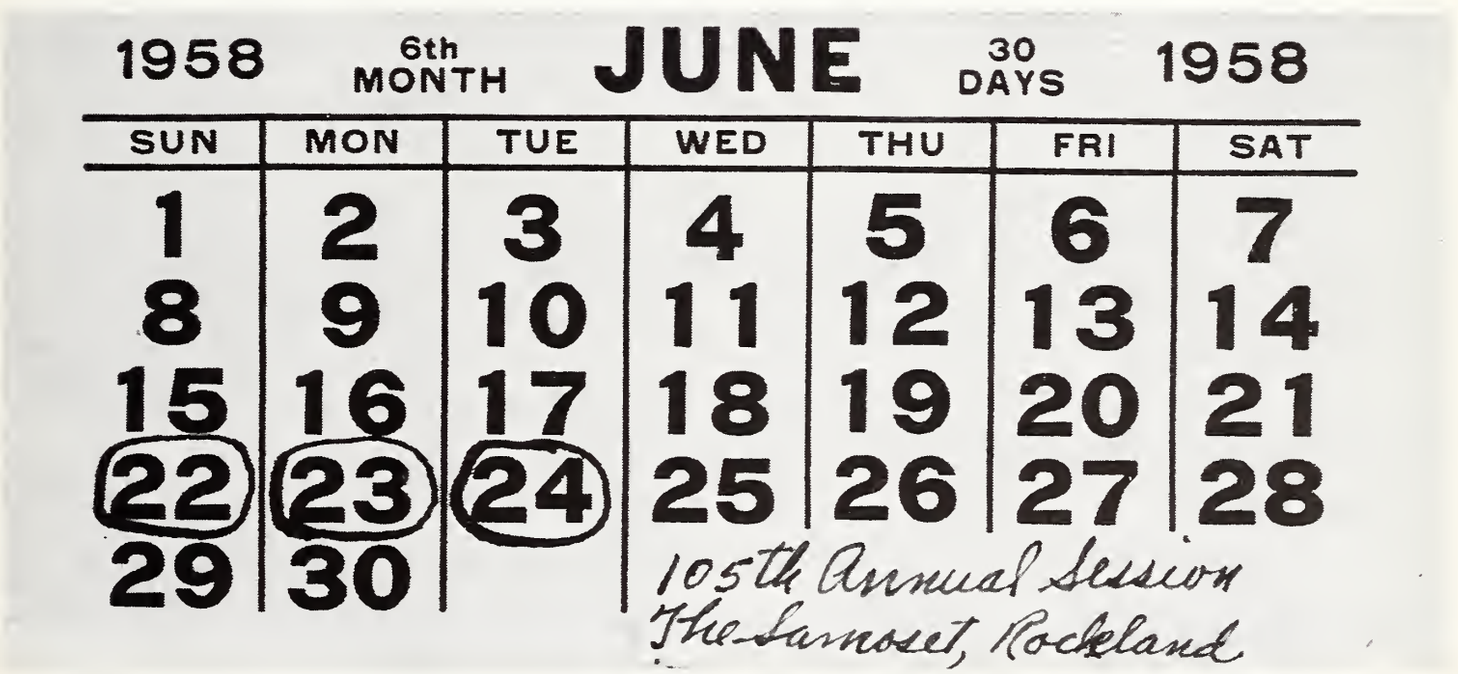
On November 15, 1957, she weighed 112 pounds, and was then fitted to a Rutzen's Ileostomy Bag. Her perineal wound had healed.

This case has been presented to illustrate the necessity and the value of close team-work between the different departments of the hospital. I am indeed most grateful for the valuable medical and surgical consultations and support, together with the help of many different departments in the hospital in handling this case.

References

1. Jackman, J. R., and May, W. C.: Chronic Ulcerative Colitis; Ano-rectal Complications. Surg. Gyn. & Obst.; April, 1954; Vol. 98, No. 4; 478-480.
2. Dennis, C.: Ileostomy and Subtotal Colectomy. Arc. Surg.; Vol. 74, No. 5; May, 1957; 814-824.
3. Fox, J. DeWitt: The Wurgical Management of Chronic Ulcerative Colitis. Am. Jour. Surg.; Jan., 1957; Vol. 93, No. 1; 3-26.
4. Kiefer, E. D.: The Management of Chronic Ulcerative Colitis. Surg. Clinics of N. A.; June, 1955; 809-816.
5. Cattell, R. B., and Colcock, B. P.: Ulcerative Colitis. Selection of Cases for Surgical Treatment. Surg. Clinics of N. A.; June, 1955; 817-822.

177 Main Street, Waterville



SPECIAL ARTICLE

Maine Doctors Of Long Ago*

ERNEST C. MARRINER

The doctor in a Maine pioneer community 150 years ago was usually a man of versatile talents. He had to be or starve. Only in the large communities, which were very few, could a man earn a living by medical practice alone.

The first man to hold a medical degree among the early settlers of Waterville was John McKechnie, who arrived at the little settlement around Fort Halifax just a few months before Arnold's expedition came up the Kennebec. In fact Dr. McKechnie tended the sick in Arnold's army during their short stay at Fort Halifax.

John McKechnie did not make medicine his principal vocation, even before he came to Waterville. He had studied medicine in Scotland before he came to America in 1755, but his first love was surveying. He had scarcely landed in Boston when he found employment with the New Plymouth Company, also known as the Proprietors of the Kennebec Purchase. Among those proprietors were Sylvester Gardiner, Benjamin Hallowell and William Vassal, for whom the towns of Gardiner, Hallowell and Vassalboro were respectively named. So John McKechnie came to Maine to survey into purchasable lots the lands of the Kennebec Purchase.

McKechnie's fame as a surveyor lies in the fact that, in spite of repeated litigation, his lot lines have never been invalidated. In every case the courts decided that the McKechnie lines were accurate. One Waterville family spent more than $15,000 over a period of ten years, shortly after the middle of the nineteenth century, trying to establish their claim that McKechnie had made a mistake of a minute angle between two lots, but in every one of a dozen suits brought by that family the original McKechnie lines held good.

Although this doctor had done surveying as far south as Bowdoinham, his most substantial work was performed between Augusta and Skowhegan, and it was in Winslow that he decided to make his home. When he surveyed the lots in that town, he shrewdly reserved for himself Lot 103 on the west side of the river, the lot which controlled the water power of Ticonic Falls. It was on the west side of the river, in what is now Waterville, that McKechnie decided to settle. He built the first frame house on that side of the river in 1775. Then he proceeded to show his keen business ability, building the first sawmill on the Messalonskee, near where the pumping station of the Kennebec Water District now stands. He became a dealer in lumber, a builder of boats, and a developer of real estate. John McKechnie was an all-around, versatile man.

No more than a dozen years after Dr. McKechnie's arrival, Waterville had another physician. This man was primarily interested in medicine and was only secondarily a business man. He was Obadiah Williams, who had been a surgeon in the Revolutionary army. He came to Sidney in 1788. Four years later he moved to Waterville and there built its first two-story house on the lot adjoining that on which Dr. McKechnie had erected the town's first frame dwelling. He built other houses, bought an interest in a gristmill, and traded in country produce. He was already a prominent citizen when he died at the early age of 47.

Waterville came near being named for Obadiah Williams. In 1795 a petition was submitted to the Massachusetts legislature asking that the part of Winslow which lay on the west side of the river be set aside as a separate town by the name of Williamsburg. But nothing came of that petition, and when the attempt to get a new town succeeded seven years later in 1802, Williams had been dead for three years. Why his fellow citizens did not show enough gratitude for his gift of land for meetinghouse and schoolhouse to name the town after him, we have no clue today. All we know is that they dropped the Williamsburg name they had preferred in 1795 and asked that the new town be called Waterville.

In 1796, three years before Dr. Williams died, there arrived in Waterville the man who was to become known as its most famous early physician. Moses Appleton had graduated from Dartmouth College in 1791 and had then taught school in Medford, Massachusetts, where he studied medicine with Governor Brooks. He received his M.D. degree from the Massachusetts Medical Society in 1796 and came immediately to Winslow. He was thus well established in the community when the area on the west side of the river became a separate town.

Dr. Appleton was truly a physician of the old school. Many years after others had abandoned the style, he

*Presented at Fall Clinical Session of the Maine Medical Association, Waterville, Maine, October 13, 1957.

wore his hair in an old fashioned queue. He often made contractual agreements with patients. In 1799 he agreed to accept from Jabez Mathews two cords of wood a year in return for "keeping his family cured of the itch." With a shoemaker named Jonathan Clark the doctor made a deal to attend the man's whole family for a year in return for a year's supply of boots for the doctor's family.

Like his predecessors, Dr .Appleton had his sidelines. He set up Waterville's first apothecary shop; he was a lay preacher; and he was a founder of the Waterville Bank. He owned several shares in the Ticonic Bridge and was for a time chairman of its directors, and he held many public offices.

In 1847, when Dr. Appleton had pretty much retired from medical practice and was spending most of his time at his bank, there walked into his tiny office, one September day, a young man named Edward Mathews, to ask for a loan of $800. Appleton told the youth he would grant the loan if an older brother, William Mathews, would endorse the note. William was a Waterville stationer and bookseller and was principal heir to the Simeon Mathews estate. That same William Mathews later became the author of numerous and widely read inspirational books.

On the afternoon of September 30, 1847, Edward Mathews returned to the bank with the note duly endorsed by his brother. He received the money, less the usual discount. The next morning his dead body was found in the basement of a building on Waterville's Main Street, where the Federal Trust Company now stands.

The man who had by that time become Waterville's leading active physician was called upon to perform an autopsy. He was Dr. Stephen Thayer, grandfather of an even more famous later physician, Frederick C. Thayer, for whom Waterville's Thayer Hospital is named. Assisting Dr. Stephen Thayer in that autopsy upon the body of Ed Mathews was a young doctor who had been in Waterville only five years and whose office was on the second floor of the building in which the body had been found.

Valorus Coolidge had come to Waterville in 1842, to study medicine with Dr. Joseph Potter. Soon after Coolidge got his medical license, Potter had moved to Ohio, and Coolidge had taken over the Potter practice. From Ohio Potter wrote Coolidge glowing accounts of the money to be made by investment in Ohio lands. So every dollar that Coolidge could earn or borrow this bachelor doctor was sending on to Potter for investment. By the end of September, 1847, Coolidge owed everybody in town who would listen to his pleas for a loan.

When the autopsy on Ed Mathews showed definite evidence of cyanide poisoning, suspicion turned to the very man who had assisted in the examination, Dr. Valorus Coolidge. He was tried, convicted, and sentenced to life imprisonment at Thomaston, where he subsequently died. So, you see, among doctors who had sidelines we must include Dr. Valorus Coolidge, whose sideline was murder.

As Coolidge had studied medicine with Dr. Potter, so Coolidge himself had taken as a student Thomas Flint of Anson. Turning state's evidence, Flint revealed at the trial that he had been Coolidge's unwilling accomplice after the fact. He had helped Coolidge carry the body down from the doctor's office to the basement, and he had disposed of certain money at the doctor's request.

What happened to Thomas Flint, the witness who convicted Coolidge? He later went to Philadelphia, finished his medical training, and received the M.D. degree. There is no evidence, however, that he at any time practiced medicine. In 1850, with relatives in the Weston and Bixby families of Somerset County, he went to California. He and one of the Bixbys set up a modest store, where Flint's ownership of a set of apothecary scales caused him to be sought by miners to weigh their gold dust. The partners prospered, buying several large ranches. In 1851 Flint returned to Maine and drove the first Merino sheep across plains and mountains to California. The great sheep ranch developed by the Flint and Bixby families was the site on which the city of Long Beach now stands.

A common factor in the sidelines of most early Maine doctors was their interest in land. Few of them became millionaire landowners like Thomas Flint, but many of them achieved substantial, if more modest, ownership. In my own boyhood such a doctor was Dr. Angus Hebb of Bridgton. Having patients with little cash, he took his pay in timber rights, and sometimes in land mortgages. That he was able to raise and educate a large family was due far more to his lumber operations than to his medical income.

Another Bridgton doctor, Edward Abbott, a homeopathic dispenser of pills, was the only doctor whom I personally knew to make his rounds on horseback with saddlebags. That was his annual custom during the spring season of deep mud.

A Bridgton doctor who had died long before I was born was Theodore Ingalls. At the age of nine he had been permanently crippled when a fractured ankle was improperly treated. When he was fifteen, Theodore's father, already the leading farmer in that pioneer community, decided that the boy would never be fit for farm work and therefore must be prepared for one of the professions. Choosing the ministry for this sickly son, the father sent the lad over the hills to Hebron Academy, where he studied for only one term. Too ill to return for the winter session, Theodore found an opportunity to study Latin with Amos Perry, a young medical student who was teaching the winter school at South Bridgton. Influenced by Perry's interest in medicine, Ingalls decided that the ministry was not for him; he would be a doctor.

So diligent was Ingalls' study with Perry and other

teachers that he was admitted into Dartmouth College in junior standing. His health, however, would not permit regular attendance at Dartmouth, but he did manage to be present at numerous medical lectures there. When he finally received his medical license in 1817, Theodore Ingalls had spent eight interrupted years in preparation. Now at last he could hang out his shingle in his native town. He had the distinction of being one of the earliest, if not the very earliest, Maine physician to practice medicine in the town of his birth.

During part of those eight years of training, Ingalls had studied with and assisted Dr. Carter of Lancaster, Massachusetts, one of the best known surgeons outside of Boston. Dr. Carter operated a kind of rest home in his big three-story house. It was not exactly a hospital, but as near as such a place came to being one in the early nineteenth century. Dr. Carter had so many of these patients that they overflowed his own place into two other adjacent houses. Across the street, in another big house, Dr. Carter, as Ingalls expressed it, "kept the town poor by contract with the town." Housed in these buildings and nearby in the village were some hundred persons needing regular medical treatment. On some days Carter saw as many as fifty patients. Rising at four in the morning, he seldom retired before eleven at night. Many years later Dr. Ingalls wrote of the man: "He had wonderful facility and accuracy in determining the character of each patient's disease. The idea that little or nothing can be told by the pulse is erroneous. Every disease and every state of the same disease has a pulse peculiar to itself. All that is required to profit from this fact is careful observation."

Dr. Ingalls has left us a record of some of his prescribed remedies. "For a cold that settles in the legs, producing stiffness and soreness, wash the legs with suds made of soap and greasy dishwater. Use it hot Then wash the limbs with strong brandy or New England rum. Wrap warm in blankets and go to bed." For rheumatism Dr. Ingalls advised: "Take a gill of turpentine, a gill of alcohol, and a small piece of camphor. Mix it all together, then rub the affected part smartly with flannel besmeared with the mixture." For snake bite he told folks to "take a strong solution of saltpeter, externally and internally." For burns he prescribed "three quarts of olive oil, and ounce of rosin, an ounce of beeswax, and two pounds of red lead. Boil the rosin and the beeswax in the oil until melted. Then add gradually the lead, and keep boiling until the lead combines with the oil and becomes nearly black. Then add half an ounce of gum camphor pulverized. This makes a potent solution." Dr. Ingalls was especially fond of an old Indian remedy for asthma: "Take one part lobelia, two parts skunk cabbage root, two parts root of the bitter sweet, one ounce of stramonium leaves, one part slippery elm, and a bit of Solomon seal. Cover the whole with spirits and let it set for four days. Dose: one tablespoon."

Strange and crude seem the ways and the remedies of the old doctors, when compared with modern scientific medicine. But those old physicians were just as loyal to the Hippocratic oath and just as concerned for their patients' welfare as is any persent-day specialist. They should not be derided or scorned. Having no laboratories and no X-rays, they used their brains and their keen observation. And they did an immense amount of good, whether because of or in spite of their pills, plasters and purges.

Colby College, Waterville

Medicare Contract Comes Up For Renegotiation This June.

May we have your suggestions for changes in the contract and fee schedule before April 1.

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D. Togus
Second District, WALDO A. CLAPP, M.D. Lewiston
Third District, RALPH P. EARLE, M.D. Vinalhaven
Fourth District, JAMES E. POULIN, M.D. Waterville
Fifth District, MARCUS A. TORREY, M.D. Ellsworth
Sixth District, RICHARD C. WADSWORTH, M.D. Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville
PEARL R. FISHER, R.N., Waterville

Across The Desk

Should Nursing Homes Be Accredited?

The need for accrediting nursing homes and other institutions providing care for chronically ill patients is so acute that unless a voluntary program is established the government will fill the void, according to the director of the Joint Commission on Accreditation of Hospitals, Dr. Kenneth B. Babcock.

Answering a question on the priority of establishing an accreditation program for nursing home and chronic care facilities, Dr. Babcock said, "It would have topmost priority as a need. I am unwilling to say the Joint Commission on Accreditation is the vehicle which should do it.

"The problem is so pressing that if the voluntary agencies like the member organizations of the Joint Commission do not take it over, the government is going to have to," he said.

Doctor Babcock pointed out that, "The idea of better quality health care in our communities through surveying of every facet of care whether it be domiciliary or actual clinical medical care is an important one."

Pointing out that the standards of the Joint Commission are "a floor, not a ceiling," Doctor Babcock said that the future program of the Commission will undoubtedly include "a tightening of the present standards and an increase in the standards to the extent that it may be harder to become accredited than it has been in the past."

The Joint Commission on Accreditation of Hospitals in a voluntary program surveys hospitals and accredits them providing they meet specified standards of patient care. The Joint Commission is sponsored by the American College of Physicians, the American College of Surgeons, the American Hospital Association, the American Medical Association and the Canadian Medical Association.

Medicare Directives on Several Subjects Issued

Within the past fortnight, Office for Dependents' Medical Care has issued five directives and information bulletins. They are concerned with *identification* of Medicare beneficiaries; fees incidental to hospital *readmissions*; *hospitalization* for *diagnostic surveys*; treatment of *acute emotional disorders*, and *summarization* of 1957 *directives*.

Rules Governing ID Card

January 1 was effective date for utilization of new "Uniformed Services Identification and Privilege Card" (DD Form 1173). Except under emergency conditions or when the prospective patient is under 10 years old, dependents must produce this card to be eligible for civilian medical or hospital services. When claim form for compensation is made out, *the doctor or hospital must explain* — in cases where DD Form 1173 was waived — why this exception was justified.

Readmission to Hospitals

Provision is made for rebates to dependents who were readmitted to civilian hospitals within 14 days following discharge, if readmission occurred November 27, 1957, or later. Formerly this readmission charge of $25 was waived only for maternity patients. Persons who re-

turned to hospitals after that date for treatment of conditions for which they were originally hospitalized need not pay a second $25 entrance charge; if they did so, Medicare will make rebate upon presentation of a claim.

Admissions for Diagnosis

Medicare headquarters stresses that no authority exists for hospitalization of patients solely for diagnostic surveys. "Once a patient is admitted to a hospital for an 'acute medical or surgical condition,' payment for diagnostic tests and procedures . . . . are authorized," says the directive. "This is interpreted to include those cases evidencing manifestations of an acute illness requiring hospitalization for proper treatment even though a firm diagnosis had not at the time of admission been determined.

> "When it is determined that the acute illness requiring hospitalization is an acute exacerbation, or a complication of a chronic disease, or other condition not covered under Public Law 569, the liability of the Government is limited to treatment of the acute phase only."

Treatment of Mental Cases

An information letter released last Thursday details the government's liability for care of servicemen's dependents suffering from nervous or mental conditions. These are "special and unusual cases" rising out of acute emotional disturbances and justifying exception to rule which excludes psychiatric services. The directive describes criteria for extending care beyond 21 days and instructs attending physicians in their responsibilities.

Medicare Fees

Any M.D. who accepts a patient under Medicare must accept as payment in full his regular fee or the fee as indicated in the Medicare fee schedule, whichever is less. In any case where extraordinary or unusual medical care is rendered, additional amounts may be granted to the physician upon application by him to the Medicare Program.

1957 Directives in Review

Finally, the latest in this series of Medicare information bulletins presents a review of directives issued in 1957 by the office of Major General Paul I. Robinson, Executive Director. Attention is directed to those that have been canceled or modified, in whole or in part. The range of subjects is broad — from blood procurement and circumcision of the newborn to tuberculosis and X-ray therapy.

Ethylene Oxide Formula Effective as Sterilizer

Agriculture Department scientists have developed a sterilant of proved effectiveness and safety in treating delicate instruments and other equipment which can not withstand steam, dry heat or liquid chemicals. Germicidal ingredient is ethylene oxide. Flammability hazard has been solved by combining it with dichlorodifluromethane or trichlorofluoromethane. Formulations were worked out by the Department's Entomology Research Division at Beltsville, Maryland, with Robert A. Fulton in charge of the project.

At Army Chemical Corps laboratories at Fort Detrick, Maryland, scientists are employing the new mixture routinely with success. It has been used to decontaminate a commercial airplane in which live polio virus was accidentally spilled and to sterilize drug products. The gas is so penetrative it can germ-free the pages of a closed book.

Hospitals Practice Medicine?

Legal restrictions on the corporate practice of medicine should not prevent nonprofit hospitals from providing medical services required by their communities, the general counsel of the American Hospital Association stated in Chicago in late December.

With few exceptions such restrictions should not apply to bona fide nonprofit institutions, Alanson W. Willcox, the Association's counsel, pointed out in a monograph, "Nonprofit Hospitals and the Corporate Practice of Medicine" published today by the association. The monograph is the result of an independent study conducted by Mr. Willcox before he became counsel for the Association.

Long established practices of community hospitals have nevertheless come under attack "as constituting the illegal corporate practice of medicine," according to Mr. Willcox. He urged that the law should not "interfere with the operation of nonprofit hospitals in whatever manner may be conducive to the welfare of their patients."

Coordinating the great variety of professional and nonprofessional services in the modern hospital would be all but impossible if each professional participant were required to be an independent entrepreneur, he said. "This complex organization is hampered and could be threatened by injection of the legal fiction that a corporation is doing things that are forbidden to it because only a human being can be licensed to do them."

Two-Month-Old Babies Need Polio Shots

Polio shots for infants as young as two months were recommended in a guest editorial in the January 11 Journal of the American Medical Association.

At present shots are generally begun at six months of age. However, several groups of researchers have found that many infants lose the immunity with which they are born before they reach six months.

Dr. Lauri D. Thrupp, chief of the poliomyelitis surveillance unit of the U. S. Public Health Service's

Communicable Disease Center, Atlanta, Georgia, said the American Academy of Pediatrics has recommended beginning the shots at two months. The third shot should follow the first two by at least six or seven months.

During 1956, attack rates of paralytic polio were highest in one-year-old children and the largest proportion of cases occurred in the under-five-year age group, Dr. Thrupp said. Preliminary data for 1957 indicate that a comparably high proportion of paralytic cases is occurring in pre-school-age children.

Response to Shots Gives Clue to Emotions

A child's response to having a shot is a good clue to his emotional maturity, a Milwaukee pediatrician reports.

A study of 133 children, ranging from tiny babies to 12-year-olds, who underwent 328 shots, showed changing responses as they grew older, Dr. Karl E. Kassowitz said in the January Journal of Diseases of Children, an American Medical Association publication.

He said the many shots and vaccinations that children must routinely undergo offer an excellent means for studying their psychology and measuring their maturity.

All children must learn self-control and develop pride in their "toughness," he said. Their reactions to shots show how well they have developed these traits.

During the first six months of life, children have no emotional response to having a shot. From the end of the first year through the fourth year, there is the greatest amount of "more-or-less violent fear and resentment."

From the fifth year on there is a steady decline in fighting. After the eighth birthday fighting becomes the exception, and self-control and pride in being able to take the shot are the rule.

In fact, lack of self-control after the age of eight to nine may be considered a clue to an underlying emotional disturbance, Dr. Kassowitz said.

Report of Delegate to American Medical Association

The House of Delegates of the A.M.A. met in Philadelphia December 3-6, 1957 to consider many problems, the foremost of which is pending legislation in Congress to provide hospital and surgical benefits for persons eligible for Social Security. President Allman took as his text "Freedom" as was fitting to be delivered from the "Cradle of Liberty." He went on to restate his and the A.M.A.'s concepts by saying, "Freedom is a never ending struggle, requiring the energy of each citizen no matter what his station in life. Our lives, our futures, and our hopes are dependent upon the preservation of freedom. We have a duty to perpetuate it. If we fail in that duty, our republic will perish, bringing an end to a system of government that has brought more good to more people than has ever been known." He continued, "There are many so-called easier ways of providing more good to more people than free enterprise, but they initially or eventually involve bigger and bigger government, and inevitably lead to the exchange of forfeiture of our God-given rights."

"The latest promise (the Forand Bill) of a better life for more people comes to the American people in an attractive but ill-directed expansion of Social Security benefits." Dr. Allman feels that this would be "the beginning of the end of the private practice of medicine, the death knell for the young and growing voluntary health insurance industry, and would be a threat to the autonomy of voluntary hospitals."

He continued, "The health insurance industry, labor, and management are now getting together to provide health insurance for retiring personnel. We are on the verge of grand achievements in furthering the well-being of our older population. Medical science is leading the way and health insurance industry must proceed with alacrity with the best possible coverage on a non-cancellable basis."

"Old age health protection is complex, embodies many problems, and consequently it is not possible to solve the issue with a monolithic answer like the Forand Bill." He then urged "each and every physician to embark upon a local action campaign to enlist the full support of his community against this legislation."

Dr. Allman, in his opening address, again explained the A.M.A. position against inclusion of physicians under the Old Age, Survivors, and Disability Insurance Program of the Social Security System. He summed up the A.M.A. opposition as "Principle Not Expediency," that is, "not to place the dollar sign ahead of principle. We should prefer to keep our government headed toward the goal of as much freedom as possible, as little government interference as necessary, rather than taking an easy cloverleaf turn leading to more government and the emasculation of individualism."

In conclusion he stated, "If we are to stand fast against those who would promote an unhealthy climate for private effort and ingenuity, we physicians must have a singleness of purpose within our own ranks. We must present a united front, ready to rally to the cause of the best possible medicine for all Americans."

In order to implement the A.M.A. efforts to oppose

the Forand Bill, the Board of Trustees appointed a special "Task Force on Social Security Hospital and Medical Benefits" to make a thorough study of the problem and recommend alternate solutions in keeping with medical traditions. This study is to be financed by the A.M.A.

In an effort to improve the efficiency and operation of the A.M.A., the Board of Trustees asked a business firm, experts on business evaluation and efficiency, to survey the A.M.A.'s entire organization. Their report is known as the "Heller Report." It contained many excellent suggestions for streamlining the organization and expediting the work of the numerous committees and councils. One of the most important recommendations was to obtain some "top-flight" executives to carry some of the responsibility of the Secretary-General Manager, Dr. George Lull. Previously, he and the Board of Trustees have managed the A.M.A. almost single-handedly. Also, the Heller Report urged that a central concept of A.M.A. objectives and basic programs be redefined, more emphasis be put on scientific activities, that the A.M.A. take the lead in creating more cohesion among national medical societies, and last but not least recommended that the A.M.A. develop a concept of the best type of medical care for American families. A committee from the Board of Trustees and the House of Delegates is to work on these recommendations.

The problem of nurses training and shortage of nursing care has been felt in other states than our own. Our specific problem was presented to the Reference Committee on Medical Education and Hospitals. It was decided by the House of Delegates to contact at "top level" the Nursing Profession and attempt to work out a solution satisfactory to both groups.

The American Medical Research Foundation was formed to be supported by the A.M.A. with the objectives of encouraging better Public Health through scientific and medical research, initiating and planning research activities, and disseminating to the profession and the public and results of such research. This Foundation is to maintain a medical library.

Each state and county society was asked to take action on the following items:

1. To have an active, strong, and effective committee on Ethics and Discipline. It was pointed out that the failure to promptly curtail unethical practices causes the medical profession and the committee to lose the respect of both the profession itself and the public.

2. To set up a Joint Medical and Hospital Liaison Committee to devise an effective in-hospital medical-professional, liability-prevention program.

3. To participate actively in the planning and operation of medical care programs for the indigent people of the state.

4. To give greater support and encouragement to its State Rural Health Committee by asking each County Society to appoint a physician or committee to form closer liaison and work with all farm organizations and rural groups.

5. To take advantage of spot announcements, films, and stories prepared by the Bureau of Health Education of the A.M.A. for use by local radio and T.V. stations.

6. To create or revitalize "A Committee on Aging."

Each member of the Society was again urged to take a more active part in political affairs by keeping informed and informing others on legislative matters pertaining to the health and welfare of its citizens, by actively supporting good candidates for public office, and writing his opinions to his chosen representatives. Specifically, support for the Jenkins-Keogh Bill and opposition to the Forand Bill are urgently needed now.

The House of Delegates approved the following:

1. The action of the Board of Trustees in conferring with the American Pharmaceutical Association and the National Association of Retail Druggists with a view to establishing a code of practices regulating the future distribution of important therapeutic products so that the best interest of all the people may be served.

2. "Guides to relationships between Medical Societies and Voluntary Health Agencies." These will be distributed shortly.

3. Fluoridation of public water supplies as a safe and practical method of reducing dental caries during childhood.

4. The publication and distribution of a 115-page "Guide to the Evaluation of Permanent Impairment of the Extremities and Back" by the Committee on Medical Rating of Physical Impairment.

5. For publication "Guiding Principles for an Occupational Health Program" in a hospital employee group. This is excellent for those concerned with the health of hospital employees.

President Allman made an urgent plea for the younger members of the profession to take a more active interest and part in their medical societies rather than letting the "old timers" do all the work. He feels that the younger men can and should provide much of the new imagination, vigor, and positive programs so urgently required to defend the sound principles of the founding fathers of our nation and our medical association. The work to be done is truly of an emergency nature. It cannot be put off, nor can it be accomplished by a few hands overnight. It demands that all men of high principle work in harmony, in strength and with all good speed. How effective we are in our united efforts to deter the trend toward intervention in medicine may well determine whether we are to remain an unhampered profession, dedicated to giving patients what they want most: good individualized and personalized medical care.

PHILIP P. THOMPSON, JR. M.D.

State of Maine

Department of Health and Welfare

DEAN H. FISHER, M.D.
COMMISSIONER

The Etiology Of Mental Retardation*

MARGARET J. GIANNINI, M.D.

PART II
SECONDARY CEREBRAL MALFORMATIONS

Porencephaly is a condition in which simple or multiloculated cystic cavities extend from the surface of the cerebral hemispheres into the ventricles. In many cases it is acquired as a result of direct cerebral trauma at birth, or cerebral vascular occlusion by either inflammation or trauma. Hemiparesis, hemiatrophy, and convulsive seizures commonly occur.

Hydrocephalus is an excessive accumulation of cerebrospinal fluid as a result of obstruction at any point in the cerebrospinal fluid pathway between the region of principal formation (within the ventricular system) and the area of principal absorption, the arachnoid space of the cerebral surface.

It may result from congenital anomalies of the central nervous system, intracranial hemorrhage associated with birth trauma or anoxia, infection, or neoplasm.

Hydrocephalus is characterized by a rapid increase in head size, large fontanels, separation of the sutures, distention of the scalp veins and retarded growth development.

Many surgical procedures have been used for the treatment of hydrocephalus, such as shunting of the cerebrospinal fluid and choroid plexectomy. Some of the newer techniques show promise.

CENTRAL NERVOUS SYSTEM ABNORMALITIES ASSOCIATED WITH METABOLIC DEFECTS

Phenylpyruvic Oligophrenia

This is a rare familial type of mental retardation, usually found in well-developed, blond, blue-eyed children with eczema. The enzymatic defect is a failure of oxidation of phenylalanine to tyrosine. This condition is associated with urinary excretion of phenylpyruvic acid (ferric chloride test).

There is no specific treatment. Dietary management, using a special diet low in phenylalanine, is being investigated.

GALACTOSEMIA

Galactosemia is a congenital error in the metabolism of lactose which produces a typical clinical syndrome with onset in the neonatal period. Characteristic features are: a failure to gain weight, hepatomegaly and jaundice, cataracts, mental retardation, albuminuria, galactosemia, an abnormal galactose tolerance curve, and clinical response to a lactose-free diet (nonmilk products, e.g. Mull-Soy, Nutramigen, or Sobee).

The prognosis is good if treatment is begun before irreversible liver damage occurs. If untreated, a significant degree of mental retardation occurs.

CRETINISM
(Congenital Hypothyroidism)

In the majority of cases, cretinism is due to the absence or the lack of the thyroid gland (sporadic type). However, in those living in goitrous areas, it is usually due to deficient thyroid hormone secretion (endemic type). Cretinism is seldom recognized at birth because of the transplacental passage of maternal thyroid hormone, but the clinical findings are usually characteristic enough to allow the diagnosis within the first few months of life.

The significant physical findings include dry, cool, thick skin, myxedema of the subcutaneous tissues, large tongue, coarse and brittle hair, delayed dentition, infantile facial configuration and body proportion, potbelly and poor muscle tone (constipation is common), bradycardia, decreased pulse pressure, and subnormal temperature with intolerance to cold.

Both physical and mental development are retarded markedly. If thyroid therapy is instituted early, the

*Prepared especially for the "Journal" from a speech given at the Ninth Pediatric Institute, sponsored by the Division of Maternal and Child Health, Department of Health and Welfare and the Maine Medical Association — Colby College, Waterville, September 20, 1957 — on the Mentally Retarded Child.

**Administrative Director, Clinic for Mentally Retarded Children; Flower and Fifth Avenue Hospital, Associate Clinical Professor in Pediatrics, New York Medical College.

prognosis for physical growth is usually good. However, improvement in mental development is not always satisfactory.

Gargoylism

(Hurler's Syndrome, Dysostosis Multiplex)

Gargoylism is a type of dwarfism of genetic determination. It is associated with a metabolic defect characterized by the storage in both skeletal and soft tissues of an obscure substance (glycogen combined with protein). There is marked shortening of the trunk and the neck, a large and misshapen head that appears to rest on the thorax, a saddle nose, coarse facial features with narrow appearing lid slits, marked creases between the lip and chin, pot-belly, kyphosis, limitation of motion of the joints, hepatosplenomegaly, diffuse clouding of the cornea, impaired intelligence and diminished hearing.

Hepatolenticular Degeneration

(Wilson's Disease)

This disease characteristically involves the basal ganglia and is associated with cirrhosis of the liver. The onset is usually in late childhood. The presence of a yellowish-green pigment in Descemet's membrane on the posterior surface of the outer margin of the cornea (Kayser-Fleischer ring) is characteristic. Clinically, there is emotional lability, jerky speech, tremors and mental retardation. The etiology is not definitely known. It has been postulated that there is a hereditary metabolic defect with ceruloplasmin deficiency, abnormal deposition of copper in the tissues and amino-aciduria. Treatment with BAL appears to be beneficial.

Reticuloendothelioses

The reticuloendothelioses are a group of rare diseases in which there is a disturbance of lipid metabolism. They are characterized by proliferation of the cells of the reticuloendothelial system at one or more sites in the body.

Gaucher's Disease is usually familial and is characterized by the presence of the cerebroside kerasin throughout the reticuloendothelial system. The acute form is usually noted in early infancy. The onset is rapid; physical and mental retardation occur early and are progressive. Findings such as laryngospasm, dysphagia, muscular hypertonia and catatonia are prominent. There are progressive hepatosplenomegaly, anemia and leukopenia.

Niemann-Pick Disease is characterized by the presence of the phospholipid sphingomyelin throughout the reticuloendothelial system. It is a heredofamilial disease occurring predominantly in Jewish infants. Physical retardation occurs early, and mental deterioration with loss of motor function is prominent. Hepatosplenomegaly characteristically occurs, and a cherry-red spot in the fovea of the retina similar to that found in amaurotic familial idiocy may be present. There is no effective therapy. Death occurs within a few years.

Acquired Focal or Disseminated Central Nervous System Lesions

Post-Toxic Lesions

Systemic Infections Toxic disorders of the brain (toxic encephalopathy) may occur in the course of acute infectious diseases such as pneumonia, scarlet fever and typhoid fever. Pathologically, there is congestion, edema and destruction of the nerve cells. The absence of demonstrable cerebral infection differentiates this condition from the instances of specific cerebral infection (infectious encephalitis) complicating acute infectious diseases.

The prognosis is variable. There may be mental retardation with persistent neurologic defects such as hemiplegia and ocular palsies.

Kernicterus is a serious complication in newborn infants born with blood incompatibilities (RH and ABO). This condition occurs in association with an elevated serum bilirubin, usually above 15 mg. per cent. Kernicterus has also been found in new born infants, most commonly premature. They have elevated serum bilirubin levels without demonstrable evidence of blood incompatibilities. The pathologic lesion of cellular destruction and bilirubin deposition involves the basal ganglia primarily, but other areas of the brain may be affected. At present, it is felt that the pathologic physiology does not result solely from bilirubin deposition; other factors such as hypoxia may also play an important role. Mental retardation, convulsions, spasticity, athetosis and cerebellar dysfunction may be present.

Lead Encephalopathy may occur from the ingestion of lead or the inhalation of lead fumes. It is characterized by evidence of the deposition of lead at the growing ends of the long bones (increased density). Recurrent convulsions, mental deficiency and blindness often result. Recently, salts of ethylenediaminetetraacetic acid (EDTA, Versenate) have been very beneficial in the treatment of the acute phase. To relieve the increased intracranial pressure, surgical decompression may also be necessary initially.

Infectious or Post-Infectious Lesions

During the acute phase of infectious diseases such as viral encephalitis, measles, chickenpox and mumps, encephalitis may occur as a result of involvement of the brain by specific pathogenic organisms (infectious encephalitis). Encephalitis may also occur following the acute phase of infectious diseases (postinfectious type) or following the immunization procedures (postvaccinal type). In these latter instances, it is not known whether the brain involvement results from specific infection or occurs as an allergic response. The prognosis is variable. Mental retardation and psychologic disturbances may result.

Post-Traumatic Lesions

Mental deficiency may occur following cerebral

trauma. The pathogenesis of the cerebral involvement is related not only to actual physical trauma but also to cerebral edema, hemorrhage and hypoxia. The prognosis is dependent upon the extent of the cerebral damage.

Posthypoxia

Cerebral damage with mental retardation may occur as a result of hypoxia from numerous causes, such as asphyxia and convulsions. Cerebral hypoxia in the neonatal period is now considered as one of the primary causes of membrane permeability with resultant cerebral edema and hemorrhage. This in turn causes further hypoxia and brain cell destruction.

Degenerative Disorders of the Central Nervous System

Cerebromacular Degeneration
(Tay-Sachs Disease, Amaurotic Familial Idiocy)

This disease is seen most commonly in Jewish families. The affected infants appear to be normal until the age of 5 or 6 months, at which time progressive mental deterioration and blindness occur. A cherry-red spot in the fovea of the retina due to macular degeneration is present. The etiology is unknown and no therapy is available. Death usually results within a few years.

Cerebromacular degeneration may occur in non-Jewish children during childhood and adolescence. These types are characterized by a more prolonged course than is seen in Tay-Sachs disease.

Demyelinating Encephalopathies

This disease may occur at any period of life. The rapidity of progression varies from death within a few weeks to a slow deterioration over a period of a few years. A progressive failure of cerebral function characterizes the clinical course. Pathologically, there is a degeneration of the white matter of the cerebral hemispheres. The cerebellum and the basal ganglia also may be involved. Symptoms are dependent upon the degree and the areas of brain involvement. Spasticity, deafness, blindness, ataxia, intention tremors, emotional disturbance and convulsive disorders may be present. The prognosis is hopeless.

Functional Mental Retardation

(Pseudoretardation)

Although true mental retardation frequently may be accompanied by sensory and motor defects, some individuals with sensory impairment, such as deafness or blindness or severe motor defects, such as cerebral palsy, may function at a retarded level solely because of their inability to utilize their normal intellectual capacities to the fullest. The latter must be considered as functional (pseudo) rather than true mental retardation. With improvement in the motor and sensory defects by specific therapy, e.g., hearing aids, eye glasses, orthopedic procedures, or by the development of compensatory mechanisms through educational procedures such as lip reading, the level of mental functioning may be raised substantially.

Functional mental retardation may occur also on the basis of severe emotional disturbances. In these instances it may be difficult to determine whether the defective level of mental functioning is secondary to a severe emotional disturbance or whether the emotional disturbance is secondary to true mental retardation. Other factors to be considered in functional retardation are the effects of restricted language stimulation, very low socio-economic status, poor cultural nourishment and unstable environmental forces. It must be remembered that although problems of adjustment may occur in all children during normal growth and development, they are usually more numerous in the retarded child. Psychiatric management of the child and the family is often necessary.

Etiologic Factors

The etiologic factors involved in the production of each individual case of mental retardation are not always clearly defined because of our limited knowledge concerning the pathologic physiology of the central nervous system. There may be a multiplicity of factors involved; for example, a postinfectious encephalitis may not be due to the specific infection, as one might assume, but perhaps it may be due to an allergic response. Mental retardation occurring in a premature infant serves as another example of the possible multiplicity of etiologic factors. Here, not only the pathologic process causing the prematurity but also the increased susceptibility of the premature infant to cerebral anoxia, trauma and hemorrhage may all play important roles in the etiology of the mental retardation. In a large percentage of the cases of mental retardation, the exact etiologic factors can only be assumed since they cannot be definitely substantiated. An accurate history, including prenatal, perinatal and postnatal aspects, serves at present as our most important aid in the etiologic diagnosis of mental retardation. The numerous etiologic factors listed above in the classification should always be considered in each individual case.

COUNTY SOCIETIES

ANDROSCOGGIN

President, Paul J. LaFlamme, M.D., Lewiston
Secretary, Donald L. Anderson, M.D., Lewiston

AROOSTOOK

President, Melvin R. Aungst, M.D., Fort Kent
Secretary, Clyde I. Swett, M.D., Island Falls

CUMBERLAND

President, Ralph Heifetz, M.D., Portland
Secretary, Stanley E. Herrick, Jr., M.D., Portland

FRANKLIN

President, Wallace H. Duffy, M.D., Farmington
Secretary, Paul E. Floyd, M.D., Farmington

HANCOCK

President, William C. Luther, M.D., West Sullivan
Secretary, Elizabeth B. Connell, M.D., Blue Hill

KENNEBEC

President, Howard H. Milliken, M.D., Hallowell
Secretary, Arch H. Morrell, M.D., Augusta

KNOX

President, David V. Mann, M.D., Camden
Secretary, Parker Heath, Jr., M.D., Rockland

LINCOLN-SAGADAHOC

President, Stanley R. Lenfest, M.D., Waldoboro
Secretary, George W. Bostwick, M.D., Newcastle

OXFORD

President, Norman M. Jackson, M.D., Rumford
Secretary, Harry L. Harper, M.D., South Paris

PENOBSCOT

President, J. Robert Feeley, M.D., Bangor
Secretary, Warren G. Strout, M.D., Bangor
Treasurer, Dexter J. Clough, 2nd, M.D., Bangor

PISCATAQUIS

President, James H. Johnson, Jr., M.D., Milo
Secretary, Linus J. Stitham, M.D., Dover-Foxcroft

SOMERSET

President, Richard P. Laney, M.D., Skowhegan
Secretary, Harland G. Turner, M.D., Norridgewock

WALDO

President, Ernest W. Stein, M.D., Pittsfield
Secretary, John A. Caswell, M.D., Belfast

WASHINGTON

President, Robert G. MacBride, M.D., Lubec
Secretary, Karl V. Larson, M.D., East Machias

YORK

President, William B. O'Sullivan, M.D., Saco
Secretary, C. W. Kinghorn, M.D., Portsmouth, N. H.

County Society Notes

CUMBERLAND

Harold L. Osher, M.D. of Portland was named an associate of the American College of Physicians at the November, 1957 meeting of the Board of Regents at the college headquarters in Philadelphia, Pennsylvania.

PENOBSCOT

December 17, 1957

The annual meeting of the Penobscot County Medical Association was held at the Bangor House. J. Robert Feeley, M.D., President-elect, presided in the absence of the President. The Secretary's report of the November meeting of the Association and the report of the Executive Council meeting were read and approved. A communication from the Air National Guard concerning the need for a Medical Officer was presented.

Edward B. Babcock, M.D., Chairman of the Committee on Diabetes, reported on that committee's efforts in the recent Diabetic Drive. The membership voted to thank the Ladies' Auxiliary for its assistance in making the annual drive a success.

Arthur N. Lieberman, M.D., Chairman of the Emergency Call Service, reported that this service is now manned by a roster of 23 doctors. He emphasized the voluntary nature of the service and stressed the need for improvement in several aspects of this program. After further comment by various members of the Association, the presiding officer asked Dr. Lieberman to attend the next meeting of the Executive Council in the hope that an improved service might be worked out and to offer suggestions for members on next year's committee. A Treasurer's report was read by Dexter J. Clough, 2nd, M.D., and approved by the Association. Albert L. Babcock, M.D., Bangor, was unanimously elected to membership.

The following officers were elected for the coming year:
President, J. Robert Feeley, M.D., Bangor
Vice-President, John E. Whitworth, M.D., Bangor
Secretary, Warren G. Strout, M.D., Bangor
Treasurer, Dexter J. Clough, 2nd, M.D., Bangor
Member of the Executive Council for three years, Clement S. Dwyer, M.D., Bangor

George W. Wood, III, M.D., reported that the third polio shot would be given from the 17th to the 30th of January and that patients are urged to contact the physician from whom they received the first two shots in order to make necessary arrangements.

WARREN G. STROUT, M.D.
Secretary

ANDROSCOGGIN

December 19, 1957

The December meeting of the Androscoggin County Medical Association was held at St. Mary's General Hospital. John A. James, M.D., Auburn, President, called the meeting to

Continued on page 74









Were You There?

If you should get the idea that we are attempting to "whet your appetite" and thus interest you in future annual sessions — you are right. Present day philosophy does not approve of the adage "the way to a man's heart is through his stomach" — but the writer is old enough to believe it worth a try.

If you were present at this event, we don't have to tell you what a wonderful time was had by all. If you were not there — don't you wish now that you had been!

In any event — these pictures were taken in June 1957 at the Annual Session "Clambake." The top picture includes the "brass" who presented the program on Mass Casualty Care, and Dr. and Mrs. Charles W. Steele of Lewiston. Next below is a member of The Samoset staff being scrutinized by Mrs. Esther M. Kennard, Paul A. Jones, M.D. of Union and Howard L. Appollonio, M.D. of Rockland. In the third picture, Sidney R. Branson, M.D. of South Windham is receiving a little personal attention from the hotel chef. And, finally — Wilbur B. Manter, M.D. of Bangor gives serious attention to the problem at hand. We have been unable thus far to identify others in this picture.

order. This was the Annual Meeting of Incorporators. There were 26 members present.

George Dycio, M.D., Auburn, was elected to membership.

The following officers were elected for 1958:

President, Paul J. LaFlamme, M.D., Lewiston
Vice-President, Ross W. Green, M.D., Auburn
Secretary-Treasurer, Donald L. Anderson, M.D., Lewiston
Delegates to Maine Medical Association: Paul J. LaFlamme, M.D. (3 years); Romeo A. Beliveau, M.D., Lewiston (2 years); and Ralph A. Goodwin, Sr., M.D., Auburn (1 year).
Alternates: Wirt L. Davis, M.D., Lewiston (3 years); Vincent H. Beeaker, M.D., Lewiston (2 years); and Ralph A. Zanca, M.D., Lewiston (1 year).

Dr. James appointed the resolutions committee: Drs. Ralph A. Goodwin, Sr., Eustache N. Giguere and Charles W. Steele.

Dr. Steele gave a resume of the AMA Asian Flu Committee meeting in Washington.

Russell A. Morissette, M.D., Lewiston, presented a case of cardiomelogy of unknown etiology in an 8-year-old boy.

DONALD L. ANDERSON, M.D.
Secretary

FRANKLIN

December 28, 1957

The following officers were elected for 1958:

President, Wallace H. Duffy, M.D., Farmington
Vice-President, Stanley B. Covert, M.D., Kingfield
Secretary-Treasurer, Paul E. Floyd, M.D., Farmington
Delegate to Maine Medical Association: Philip B. Chase, M.D., Farmington
Alternate: Paul A. Fichtner, M.D., Rangeley
Board of Censors: Charles W. Eastman, M.D., (3 years); Maynard B. Colley, M.D., (2 years) and Wallace H. Duffy, M.D. (1 year)

Joseph E. Martin, M.D., Livermore Falls, was elected to membership.

PAUL E. FLOYD, M.D.
Secretary

HANCOCK

January 8, 1958

The January meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth. William C. Luther, M.D., West Sullivan, President, called the meeting to order.

The minutes of the previous meeting were read and approved.

Walter W. Herbert, M.D., Ellsworth, presented an excellent X-ray symposium of lesions of the large bowel producing constipation. The clinical histories were given by members of the Society.

The following members were present: Drs. Philip L. Gray, Elizabeth B. Connell, John T. Connell, Russell G. Williamson, W. Edward Thegen, Arthur M. Joost, Jr., Llewellyn W. Cooper, Robert F. Russell, William C. Luther, Herbert T. Wilbur, Jr., Walter W. Herbert, George M. Sanger, Eji Suyama, Marcus A. Torrey, James H. Crowe, Ernest L. Coffin, Harry Kopfmann. Guest, Blossom Sanger.

ELIZABETH B. CONNELL, M.D.
Secretary

YORK

January 8, 1958

The January meeting of the York County Medical Society was held at the Kennebunk Inn, Kennebunk.

After a social hour and dinner, the meeting was called to order and the report of the nominating committee accepted.

The following officers were elected:

President, William B. O'Sullivan, M.D., Saco
Vice-President, William E. Dionne, M.D., Springvale
Secretary-Treasurer, Charles W. Kinghorn, M.D., Portsmouth, N. H.
Delegates to the Maine Medical Association: J. Robert Downing, M.D., Kennebunk, Roger J. P. Robert, M.D., Saco and James H. Macdonald, M.D., Kennebunk
Alternates: Melvin Bacon, M.D., Sanford, Leon R. Jellerson, M.D., North Berwick and Robert F. Ficker, M.D., Kennebunkport
Board of Censors: Stephen A. Cobb, M.D., Maurice Ross, M.D. and Louis C. Lesieur, M.D.
Board of Resolutions: H. Danforth Ross, M.D., Ruth E. Endicott, M.D., and Alexander W. Magocsi, M.D.
Publicity, Frank W. Barden, M.D.
Auditing: Stephen A. Cobb, M.D., and Melvin Bacon, M.D.

The Secretary-Treasurer's annual report was approved.

William F. Mahaney, M.D., and Roger J. P. Robert, M.D. will have charge of the next meeting to be held in Saco. Dr. Mahaney made a motion that the meeting be a testimonial to our Secretary for his 26 years of continuous service.

The Society voted in favor of Social Security. The State Secretary is to be notified that Dana B. Mayo, M.D., is entitled to a 50-year medal. Dr. Barden, Publicity Chairman, appointed all members as his assistants.

Jack Dalton, of Eli Lilly & Company, gave a talk and introduced Mr. Charles Champaine who spoke on bill collecting.

There were 22 members and two guests present. Members: Drs. Frank W. Barden, Leandre R. Charest, Kenneth J. Cuneo, Dana B. Mayo, J. Robert Downing, Ruth E. Endicott, Robert F. Ficker, Alvin A. Hoffman, Marcel P. Houle, Harry Lapirow, James H. Macdonald, William F. Mahaney, Marion A. K. Moulton, Carl E. Richards, Maurice Ross, Leopold A. Viger, Eugene P. Wolfahrt, Charles W. Kinghorn, Melvin Bacon, S. Dunton Drummond, Roger J. P. Robert, Michael M. P. Magaudda. Guests: Mr. Dalton and Mr. Champaine.

CHARLES W. KINGHORN, M.D.
Secretary

INTERIM MEETING — M.M.A. HOUSE OF DELEGATES

Sunday, March 30, 1958

at Brunswick, Maine

Necrologies

Alfred W. Haskell, M.D.

1876 - 1957

Alfred W. Haskell, M.D., 81, of 142 High Street, Portland, died November 28, 1957.

Former director of the Maine Institution for the Blind, an appointment he received in 1931 from Governor William T. Gardiner, Dr. Haskell was one of Portland's first medical eye specialists. He was known throughout Maine for his work in this field and had a distinguished record in eye surgery in army hospitals in France during World War I. He was active in the Medical Officers Reserve Corps and achieved the rank of Major in 1924.

Dr. Haskell was born in Portland, February 8, 1876, the son of Charles A. and Mary S. Haskell. He attended local schools and received his medical degree from Bowdoin Medical School in 1900. He did postgraduate work at French Hospital in 1911, at Knapp Memorial Eye Hospital, 1911-12, and in Vienna in 1913.

A member of the American Medical Association and an Honorary Member of the Maine Medical Association, Dr. Haskell received his 55-year pin in 1955. He belonged to the Portland Medical Club, the Portland Club, and was a former member of the Portland Board of Health.

He was a Mason and a former president of the Past Commanders Association of the Harold T. Andrews Post, American Legion.

He is survived by a sister, Miss Louise F. Haskell, with whom he lived, and a cousin, Merrill Haskell of Yarmouth.

Joseph Emile Poulin, M.D.

1887 - 1957

Joseph Emile Poulin, M.D., 70, of Lewiston, died November 12, 1957.

Dr. Poulin was born in Lewiston on February 6, 1887, son of Gregoire and Julia L. Poulin. He attended schools in Auburn, Victoriaville College, Montreal University, Canada and received his medical degree from Laval University, Montreal, in 1913.

A member of the American Medical Association, the Maine Medical Association and the Androscoggin County Medical Association, he began practicing medicine in Augusta in 1915. After his service in the American Expeditionary Forces during World War I in the Medical Corps, Dr. Poulin did postgraduate work at Sorbonne University and in Paris hospitals in eye, ear, nose and throat. He returned to Lewiston and practiced as a specialist.

He is survived by his wife, Albertina Pomerleau, and a son, a scientist employed by the U. S. Government.

Leroy H. Smith, M.D.

1892 - 1957

Leroy H. Smith, M.D., 65, of Winterport, well-known general practitioner and consulting physician, died on November 26, 1957.

Dr. Smith was born at Winterport on November 14, 1892, son of Mandel C. and Lura L. Smith. He attended public school in Winterport and received his medical degree from the University of Maryland in 1917. During World War I he was a captain and served as Chief of Laboratories at Ft. Oglethorpe, Georgia.

He practiced medicine in the Winterport and Bangor area from 1919 until his retirement in 1947. Dr. Smith was on the staff of the Eastern Maine General Hospital and consultant at the Waldo County Hospital in Belfast.

A member of the American Medical Association and the Maine Medical Association, he was a past president of the Penobscot County Medical Association and a member of the Medical Club of Bangor.

The Leroy H. Smith School in Winterport was dedicated in his honor in recognition of his service to the community as a member of the School Committee.

He was a member of Nu Sigma Nu Medical Fraternity, the Rush Medical Society, Argonne Post, American Legion; Garfield Lodge, IOOF; Howard Lodge, F and AM; Mizpah Rebekah Lodge, Cushing Chapter of the Order of the Eastern Star, and the Executive Club of Bangor.

Dr. Smith is survived by his widow, the former Frances M. Lougee; two sons, Basil Lougee Smith of Orono and Earle Stuart Smith of Bristol Highlands, Rhode Island; and six grandchildren.

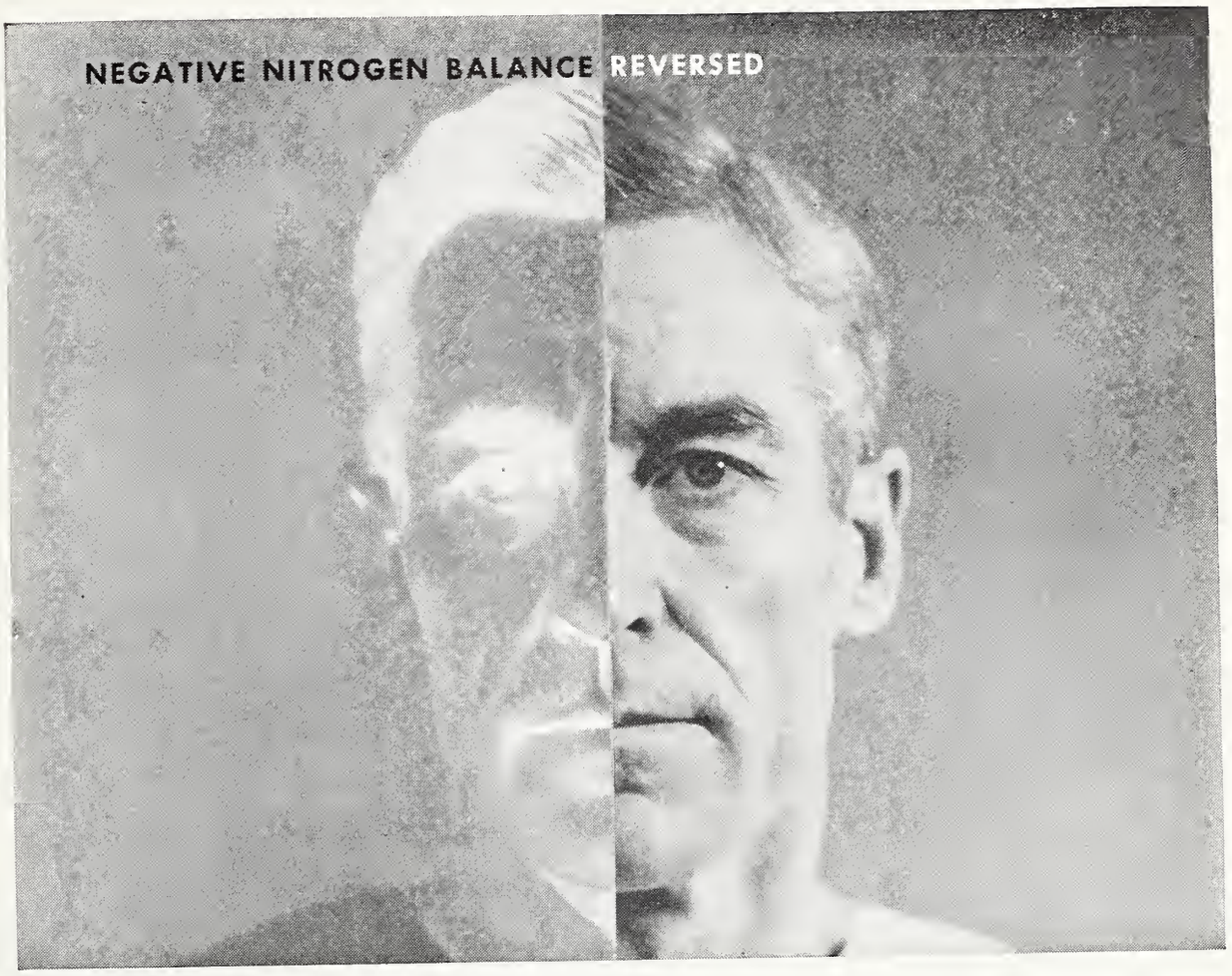
Tuberculosis Abstract

The cases of 95 adult patients who had minimal pulmonary tuberculosis that was treated with chemotherapy between 1951 and 1954 at the Nopeming Sanatorium, Nopeming, Minnesota have been reviewed. Roentgenographically demonstrable lesions were seen equally in either upper lobe and, in one-fifth of the cases, the lesions were bilateral. Almost one-half of the cases of minimal disease were found by means of survey films. Of all admission bacteriologic studies, sputums and gastric cultures were the most frequent source of tubercle bacilli. Reversal of infectiousness was achieved in most cases within one month after admission. Relapses were benign and readily controlled. There were no deaths or progression of disease. In the surgically treated group more viable tubercle bacilli were recovered from the resected specimen, and more relapses were seen if the preoperative treatment had been less than four months than if it had been more than four months. The surgical patients did no better than the nonsurgical patients; indeed, 23 per cent had significant surgical complications. From this experience the writers have been unable to define the indications for resection of minimal pulmonary tuberculosis.

From:

Krueger, V. R. and Vance, J. W.: Minimal Pulmonary Tuberculosis — An Early Evaluation in the Recent Antimicrobial Era, Am. Rev. Tuberc., 76:64-75, 1957.

The Maine Trudeau Society, Medical Section, Maine Tuberculosis Association



Nilevar®

stimulates protein synthesis, corrects negative nitrogen balance

Increased nitrogen loss, with resulting negative nitrogen balance, occurs in infection, trauma, major surgery, extensive burns, certain endocrine disorders and starvation and emaciation syndromes. The intrinsic control of protein metabolism is lost and a protein "catabolic state" occurs. A patient requiring more than ten days of bedrest usually has had sufficient metabolic insult[1] to precipitate such a "catabolic" phase.

Nilevar (brand of norethandrolone) has been used in patients with varied conditions including hyperthyroidism, poliomyelitis, aplastic anemia, glomerulonephritis, anorexia nervosa and postoperative protein depletion. The patients gained weight and felt better. It was concluded[2] that "the drug certainly caused a reversal of rather recalcitrant or progressive catabolic patterns of disease."

Nilevar is unique among anabolic steroids in that androgenic side action is minimal or absent.

The suggested adult dosage is three to five tablets (30 to 50 mg.) daily. For children 1.5 mg. per kilogram of weight is recommended.

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

---

1. Axelrod, A. E.; Beaton, J. R.; Cannon, P. R., and others: Symposium on Protein Metabolism, New York, The National Vitamin Foundation, Incorporated, (March) 1954, p. 100.

2. Proceedings of a Conference on the Clinical Use of Anabolic Agents, Chicago, Illinois, G. D. Searle & Co., April 9, 1956, pp. 32-35.

SEARLE

Announcements

Pineland Hospital and Training Center
Pownal, Maine

Carl Hedin General Hospital — Red Room

February 19 —	Prophylaxis and therapy	11:00 a.m.
February 27 —	Clinical Pathological Conference Death Review and Microscopic Demonstration	11:00 a.m.

American College of Surgeons

The American College of Surgeons invites surgical specialists and nurses to attend special sessions to be conducted for them at the Belmont Plaza, Biltmore, Commodore and Waldorf-Astoria Hotels and at many of New York's teaching hospitals during a four-day Sectional Meeting, March 3-6, 1958.

John H. Mulholland, M.D., George David Stewart, Professor and Chairman of the Department of Surgery, New York University School of Medicine, is Chairman of the Advisory Committee on Local Arrangements for the scientific program. Miss Ethel M. Jordan, Professor of Nursing, Department of Nursing, Skidmore College, is Chairman of the Nurses' Advisory Planning and Arrangements Committee.

The nurses' program will include morning programs at the headquarters hotels, afternoon visits and demonstrations at hospitals and opportunities to attend all surgical specialty sessions and exhibits.

Attractions for surgeons will feature hospital clinics and separate programs in general surgery, gynecology and obstetrics, ophthalmology, orthopedic surgery, otolaryngology, thoracic surgery and urology.

The Ladies' Hospitality Committee will conduct a registration and information desk where visitors will be advised concerning entertainment, shopping opportunities and other attractions of the city.

The preliminary program will be published in the January-February, 1958 Bulletin.

H. Prather Saunders, M.D., Associate Director, American College of Surgeons, is in charge of the Sectional Meeting program of the College, and inquiries may be addressed to him at 40 East Erie Street, Chicago 11, Illinois.

National Foundation for Infantile Paralysis Offers Fellowships for Tissue Culture Course

The National Foundation for Infantile Paralysis is again offering fellowships to postdoctoral investigators, teachers,

TAKE A LOOK AT
NEW DIMETANE
THE UNEXCELLED
ANTIHISTAMINE

graduate students and experienced laboratory personnel with the baccalaureate degree for participation in short courses in tissue culture.

Fellowships may be used for study only in formal courses designed to teach the principles, techniques, and application of tissue culture. Funds will be awarded for the period necessary to complete the course, which, in most instances, is not expected to exceed six weeks.

Financial assistance, based on individual need, may include an allowance for maintenance, for tuition and fees and for round-trip transportation.

Further information and application forms may be obtained from the Division of Professional Education. Completed application should reach the National Foundation at least six weeks prior to the beginning of the course.

Write: Division of Professional Education, National Foundation for Infantile Paralysis, 301 E. 42nd Street, New York 17, N. Y.

Postgraduate Course — Fractures and Other Trauma

The second annual Postgraduate Course in Fractures and Other Trauma will be given by the Chicago Committee on Trauma of the American College of Surgeons, from Wednesday, April 16 through Saturday, April 19, 1958, at the John B. Murphy Memorial Auditorium, 40 East Erie Street, Chicago, Illinois.

All phases of trauma will be discussed by outstanding teachers from five medical schools, and chiefs of services of leading hospitals in the Chicago area as well as notable guest speakers from other parts of the country, according to Sam Banks, M.D., director of the course and chairman of the Chicago Committee on Trauma.

Registration fee is $50.00. Residents, interns, students will be admitted free if a note of identification from chief of service or dean is provided. Inquiries relative to the course may be addressed to John J. Fahey, M.D., Chairman of the planning committee for this course, 1791 W. Howard Street, Chicago 26, Illinois.

The Academy of Psychosomatic Medicine

The following officers were elected at the Fourth Annual Meeting of The Academy of Psychosomatic Medicine held October 17-19, 1957 at the Morrison Hotel in Chicago.

President, Bernard B. Raginsky, M.D.
Montreal, Quebec, Canada
Vice President, Lester L. Coleman, M.D.
New York City
Secretary, Wilfred Dorfman, M.D.
Brooklyn, New York
Treasurer, George F. Sutherland, M.D.
Baltimore, Maryland
Historian, Maury D. Sanger, M.D.
Brooklyn, New York
President-Elect, William S. Kroger, M.D.
Chicago, Illinois.

WILFRED DORFMAN, M.D.
Secretary

Dimetane®
(PARABROMDYLAMINE MALEATE)
TABLETS (4 MG.), ELIXIR (2 MG. PER 5 CC.) AND EXTENTABS® (12 MG.) UNEXCELLED POTENCY, UNSURPASSED THERAPEUTIC INDEX AND RELATIVE SAFETY. MINIMUM DROWSINESS AND OTHER SIDE EFFECTS. A. H. ROBINS CO., INC., RICHMOND, VIRGINIA. ETHICAL PHARMACEUTICALS OF MERIT SINCE 1878
Robins

The New Orleans Graduate Medical Assembly

The twenty-first annual meeting of The New Orleans Graduate Medical Assembly will be held March 3-6, 1958, in New Orleans, Louisiana. Headquarters will be at the Roosevelt Hotel.

Speakers include, Carleton B. Chapman, M.D., Dallas, Texas (Cardiology); Robert A. Davison, M.D., Memphis, Tennessee (General Practice); Charles A. Flood, M.D., New York, New York (Gastroenterology); Perrin H. Long, M.D., Brooklyn, New York (Internal Medicine); James Marvin Baty, M.D., Boston, Massachusetts (Pediatrics); Claude E. Welch, M.D., Boston, Massachusetts (Surgery); Lawrence M. Randall, M.D., Rochester, Minnesota (Gynecology).

A postclinical tour to Mexico will follow the New Orleans meeting.

For further information write: Maurice E. St. Martin, M.D., Secretary, The New Orleans Graduate Medical Assembly, 1430 Tulane Avenue, Room 103, New Orleans 12, Louisiana.

Postgraduate Course on Diseases of the Chest

The Council on Postgraduate Medical Education of the American College of Chest Physicians will sponsor the 11th Annual Postgraduate Course on Diseases of the Chest at the Warwick Hotel, Philadelphia, March 3-7, 1958.

The most recent advances in the diagnosis and treatment of chest diseases — medical and surgical — will be presented. The tuition fee is $75 including round table luncheons.

Further information may be obtained by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

American Board of Obstetrics and Gynecology

The next scheduled examinations (Part II), oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from May 7 through 17, 1958. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I examinations will be notified of their eligibility for the Part II examinations as soon as possible.

Secretary: Robert L. Faulkner, M.D., 2105 Adelbert Road, Cleveland 6, Ohio.

International Congress of Internal Medicine
Philadelphia — April 24-26, 1958

The Fifth International Congress of Internal Medicine will be held in Philadelphia, April 23 through 26, 1958. This is the first meeting of the Society to be held in this country. Nineteen hundred American physicians have joined the Society, which now numbers 4,000 members from 34 nations of the world.

Information relative to this meeting may be obtained by writing to Frank N. Allen, M.D., 605 Commonwealth Avenue, Boston 15, Massachusetts.

Fluoridation Materials Available

Professional people who are called upon to investigate and report on fluoridation, will now find a package library of authoritative reference material available to them at convenient locations, or will be able to borrow the material, on a "loan" basis, from the State Department of Health and Welfare, State Library and Maine Medical Association.

Among other items, the package library presently contains reports from the National Research Council, and technical papers on the "Medical Aspects of Excessive Fluoride in a Water Supply," the "Nondental Physiological Effects of Trace Quantities of Fluorine," and "Urinary Fluoride Levels Associated with Use of Fluoridated Waters."

A "loan" copy of the package library can be borrowed for a short period by writing to the Office of Health Education, Department of Health and Welfare, State House, Augusta, Maine, or the other sources mentioned above.

National Meeting on Worker Health

How to keep workers healthy and on the job through control of hazardous exposures in the working environment and provision of preventive medical services in industry will be the subject of a national Industrial Health Conference, to be held in Atlantic City, New Jersey, April 19-25, 1958.

Expected to attend the Conference are over 3,000 members of the five participating organizations, the Industrial Medical Association, The American Association of Industrial Dentists, the American Association of Industrial Hygiene, the American Association of Industrial Nurses, and the American Conference of Governmental Industrial Hygienists, as well as representatives of industrial management, labor, and others concerned with health in industry.

Your one-stop direct source for the

FINEST IN X-RAY

apparatus . . . service . . . supplies

DIRECT FACTORY BRANCH
BOSTON
1256 Soldier Field Rd. • STadium 2-1100

RESIDENT REPRESENTATIVE
SOUTH PORTLAND
R. J. MARTIN
19 Chase St. • SPruce 9-0536

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, March, 1958 | Number 3

Hepatic Coma Induced By High Protein Therapy And By Diarrhea

Two Case Reports

Carl M. Goldsmith, M.D.* and M. A. Chapin, M.D.*

Although it has been postulated that the neurologic features of hepatic coma may be due to toxic amounts of ammonia in the blood, other evidence strongly questions this as the sole cause.

Since the end of the nineteenth century there have been sporadic reports of nitrogenous intoxication in animals following the establishment of a portal-caval shunt. In recent years much attention has been focused on this phenomenon, in good part because of clinical recognition that this syndrome occurs in primary liver disease in practice, as well as after venous shunt operations. Out of this has come the recent excellent work documenting what was once a suspicion and describing the syndrome of increasing confusion progressing to somnolence, drowsiness and loss of consciousness.[1] Although it has been postulated that the neurologic features of hepatic coma may be due to toxic amounts of ammonia in the blood,[3,4,5] other evidence strongly questions this as the sole cause.[6] Most of us, however, still think of nitrogen intoxication as a sequel of by-passing operations on the hepatic circulation and further complicated by gastro-intestinal bleeding. The following is a report of the development of neurologic symptoms in two cases of severe liver disease in which neither of these events had occurred; the first demonstrates its induction by high-protein diet in an instance of carbon tetrachloride poisoning and the second its occurrence after prolonged diarrhea of unknown cause.

*Department of Medicine, Central Maine General Hospital.

Case I

This 51-year-old, white, married, male, ex-textile worker entered the Central Maine General Hospital because of jaundice, weakness and diarrhea. For years he had been drinking moderate amounts of beer and whiskey daily. He had never been a spree drinker, had delirium tremens, or neglected his food intake. He had been very well until eight months prior to admission when he became jaundiced and weak. He was told then he had cirrhosis. Since that time he had lost 25 pounds and had been unable to work because of weakness. He had had a hemorrhoidectomy three years previously. He had never had ascites, varicosities or edema. During the two months prior to admission he had had a persistent pruritis without dermatitis. Five days before admission he had several glasses of whiskey. The following day he went to take some mineral oil and by mistake took a mouthful of carbon tetrachloride. He realized the mistake instantaneously, spat the material out and vomited. He could not remember actually swallowing any. The next morning he became nauseated and had frequent vomiting of clear, sour gastric material as well as diarrhea consisting of loose, clay-colored stools almost hourly. These symptoms persisted until admission to the hospital.

Physical examination disclosed him to be a well-

developed but wasted male who was jaundiced, tacypneic and confused. There was a gross non-flapping tremor of all extremities. His temperature was 101°F. rectally, pulse 120, respiration 32, and blood pressure 120/60. There were small capillary telangiectasias over the malar areas, several of which appeared as typical spider hemangiomata. The sclerae were icteric. The heart and lungs appeared normal. There was no gynecomastia. The abdomen was slightly protuberant but there was no shifting dullness or other evidence of intra-abdominal fluid. The superficial abdominal veins were easily visible but not distended. The liver edge which was palpable 5 cm. below the right costal margin, was firm and non-tender. The spleen was not palpable and the testes and prostate were atrophic. Except for the gross tremor noted above, the neurologic examination was not remarkable.

Laboratory Findings

Examination of the blood revealed a hemoglobin of 7.0 gm. per 100 ml. (45%); the erythrocyte count was 2,900,000 per cu.mm.; the white cell count was 20,100, with the differential count showing 89 per cent mature neutrophils and 1 per cent band forms. The red cells exhibited both micro- and macrocytosis on examination of the smear. Examination of the urine showed a specific gravity of 1.022 and an acid reaction; it contained 10 mg. per cent protein and gave positive reactions for both bile and urobilinogin; the sediment showed 4-5 white cells per high field and occasional coarse granular casts. Stool examination for occult blood, ova, parasites and enteric pathogens was negative. The serum total proteins were 6.4 gm. per cent with 3.2 gm. per cent each of albumin and globulin. The total bilirubin was 5.7 mg. per cent with a direct reacting type of 4.3 mg. per cent. The bromsulfalein test showed 20.5 per cent retention at 45 minutes. A roentgenogram of the chest showed old pleural adhesions in the left costo-phrenic angle and moderate diffuse pulmonary emphysema. There were no esophageal varices seen on barium swallow study.

On admission, this patient was given a 3000 calorie, high-protein, bland diet with frequent feedings of milk and non-absorbable alkali. His mental state deteriorated steadily. By the third hospital day he had become disoriented, hyperactive and noisy, requiring isolation and restraints. Neurologic examination revealed no changes other than those of behavior. Oral feedings became impossible and he was maintained with intravenous solutions of glucose and vitamins. By the fifth hospital day his sensorium was clearer than it had been on admission. The following day, to confirm that the high dietary protein had caused the change in his mental status, he was again given a high-protein, high-calorie diet. The following day he had two episodes of vomiting and was confused. One day later he was again hyperactive, confused and disoriented. The protein intake by mouth was stopped, 20 gm. sodium glutamate was given orally and intravenous infusions administered. Again, the mental symptoms quickly regressed. After one day of taking 12 gm. Neomycin® orally, he was given a daily schedule of 20 gm. sodium glutamate and 8 gm. sulfathalidine, with a 2000 calorie diet consisting of 20 gm. protein, 30 gm. fat and 400 gm. carbohydrate. By the tenth hospital day he was completely in contact with his surroundings and he remained so throughout his subsequent stay. By the twentieth day, sulfathalidine was discontinued and the glutamate was decreased to 10 gm. daily, in divided doses. When discharged from the hospital on the twenty-fourth day, his hemoglobin was 10.1 gm. per cent, the bromsulfalein showed only 5.9 per cent retention, the total bilirubin was 1.6 mg. per cent, the white cell count and differential were normal, and he was both ambulatory and asymptomatic.

CASE II

This 70-year-old, white, single female was admitted to the hospital because of coma of about 12 hours duration. Apparently well all her life, she had had onset of swelling of the ankles and legs a year previously, followed by heaviness and swelling of the abdomen. Some eight months previously, this had progressed to the extent that several abdominal paracenteses with removal of accumulating fluid having the characteristics of a transudate were necessary. Histologic studies of the sedimented cells showed no evidence of malignancy. Function studies of the somewhat enlarged liver were normal with exception of a bromsulfalein retention of 12 per cent. Since the cause of this probable cirrhosis of the liver was not evident, an exploratory abdominal operation had been accomplished at St. Luke's Hospital in New York City, some four months previously, and a liver biopsy had showed definite portal cirrhosis. A simple hepato-omentopexy was performed as it was believed she would not tolerate a drastic shunt operation. She recovered from this, slowly improved, and with a low salt diet, vitamins, and frequent injections of liver extract, required but one tapping of ascitic fluid in the interim following the operation. She subsequently spent the summer visiting friends in Farmington, Maine.

One week before this admission, she had rather suddenly begun to have frequent, loose, watery stools associated with some nausea and anorexia. There was no vomiting, fever or melena. Kaopectate® did not help the diarrhea which continued to the extent of 6-8 stools daily. In spite of this, she remained ambulatory until the day prior to admission when she became lethargic, confused, and finally stuporous, comatose and unresponsive the night before admission.

Physical Examination

On examination, mild coma was obvious and there were only slight withdrawal responses of all extremities to painful stimuli. The temperature was 99° F. rectally,

the pulse 86 and regular, and the respirations 26 and of deep, regular character. The blood pressure was 142/70. A peculiar, sweet odor was noted to her breath (this had been noted by her family physician during the past year and had remained a constant finding). Moderate icterus of the skin and sclerae was present but no spider hemangiomata of the skin could be seen. The pupils were miotic with no reaction to light. The tongue appeared slightly thickened and diffusely red but with normal papillation. No adenopathy was evident. The heart and lungs seemed normal. Flank fullness, shifting dullness and moderate protuberance of the abdomen confirmed the presence of ascites. The liver edge was palpable 4 cm. below the right costal margin, and was firm with fairly sharp edge. The spleen was not palpable and the superficial abdominal veins were not distended. A healed, right paramedian incisional scar was present. Old hemorrhoidal tabs were present, otherwise the rectal and pelvic examinations were normal. Moderate palmar erythema of both hands was present. All deep tendon reflexes were present and active; the plantar reflexes were extensor, bilaterally.

Laboratory Findings

The hemoglobin was 12.5 gm. per 100 ml. (80%); the erythrocyte count was 4,400,000 per cu. mm., and the white cell count was 8200, with 62 per cent mature neutrophils and 17 stab forms being noted in the differential count. A catheterized urine specimen was dark yellow, acid, of specific gravity 1.020, and contained but 5 mg. per cent of albumin. The serology was negative and the blood urea nitrogen was 13 mg. per cent. The serum bilirubin was 3.2 mg. per cent, with a direct of 1.6 mg. per cent. The prothrombin time was 18.5 seconds and 38.5 per cent activity. The serum total protein was 6.1 gm. per cent, with the albumin being 2.1 and the globulin 4.0 gm. per cent. Serum electrolyte determinations revealed a sodium concentration of 142, potassium of 2.9, chloride of 124, and CO^2 of 18 M.eq./L. Stool examinations showed no occult blood, ova, parasites, or enteric pathogens.

Elective treatment consisted of intravenous glucose solutions containing the B-complex and C vitamins, and potassium chloride. Liver extract was administered intramuscularly. By the second hospital day, she was quite noisy and restless, moaned frequently, required restraints, and 3 loose, watery, brown stools of surprisingly large bulk had been passed. By the third day she seemed somewhat more responsive, and was able to nod her head in answer to questions. By the fourth day, she was awake and able to talk, though confused. Two-to-three loose stools were still being passed daily without control, and the plantar responses were still extensor bilaterally. Since she was able to swallow at this time, Zymacaps,® Kaopectate® with paregoric, and 2 gm. Neomycin® were given every six hours. The diarrhea abated within another 24 hours with establishment of full voluntary control. Daily improvement was manifested from then on. She was ambulatory by the sixth day, and was cheerful, hungry and stronger. Normal plantar reflexes were now evident. No "flapping" tremors were demonstrable at any time during her hospital course. A diet consisting of increasing amounts of protein up to 50 gm. per day, had no apparent ill effect.

. . . that high-protein feeding may precipitate coma in some patients with severe liver disease, has been recognized for several years. Conversely, it has also been known that in such patients a reduction of the protein intake will often restore normal cerebral function.

Discussion

The first patient, who is presented as an instance of pre-coma developing in liver disease as a result of dietary protein, entered the hospital jaundiced and confused. The diagnosis of cirrhosis had been made eight months previously on clinical grounds. He had had recent exposure to carbon tetrachloride following excessive whiskey intake. A recent report by Joron and others[7] indicates that liver decompensation may result from only slight contact with this hepatotoxin during or shortly after alcohol ingestion. It is presumed that this caused further acute decompensation in this patient's already compromised liver, even though there was not adequate toxic exposure to affect renal function.

In the treatment of liver disease a high-calorie, high-protein diet has long been advocated. When varices are suspected, an ulcer regimen is considered helpful in preventing peptic digestion and irritation to varices with subsequent bleeding. This patient, on such treatment, promptly deteriorated and within 36 hours became restless, confused and disoriented to a degree thought near-terminal by those caring for him. However, with intravenous feedings of glucose solutions, there was a dramatic regression of these symptoms, so that within another 36 hours he was again mentally alert. Since this startling series of events raised the question of association of mental symptoms and dietary protein, readministration of the diet was again tried with entirely similar results. Thus, clinically, there was little doubt that the central nervous symptoms were induced by the high-protein diet.

This observation that high-protein feeding may precipitate coma in some patients with severe liver disease, has been recognized for several years.[8] Conversely, it has also been known that in such patients a reduction of the protein intake will often restore normal cerebral function. Therefore, since the orthodox treatment of liver disease, based on sound evidence, has been the

administration of a high-protein diet, the appearance of abnormal central nervous symptoms should be a warning signal of protein intolerance rather than an augury of early demise.

Although still unproved, much evidence has appeared in the recent literature implicating ammonia intoxication as a cause of the neuropsychiatric symptoms leading to hepatic coma.[9] Ammonia is a highly toxic agent. In normal individuals it is detoxified by the liver which combines it with carbon dioxide to form urea. It may also be removed by peripheral and nervous tissues via the transaminase reaction in which glutamic acid is changed to glutamine. This last step, however, results in removal of ketoglutarate from the citric acid cycle and probable diminution in oxygen supply,[10,11] with theoretical ill effects, particularly on nervous tissue. According to this theory, ammonia, which is derived largely from dietary protein by bacterial and enzyme activity in the intestine, is not properly detoxified by the impaired liver and circulates with toxic effects on the brain. Thus, in recent years, largely as a result of this concept, the rational treatment of hepatic coma has been the withdrawal of dietary protein, the administration of broad spectrum antibiotics or Neomycin,[12] the administration of glutamate[13] and the use of enemas or purges.

In the first case, we cannot be certain that the glutamate-antibiotic regimen was a factor in recovery. However it is obvious that had high-protein feeding been continued, the results may have been disastrous. It is to the end that such an error might be avoided that this case is presented.

The second case reported above represents the occurrence of hepatic coma following a week of diarrhea and minimal food intake, most of which was liquid and with little protein content. Thus, there was no relationship of coma to protein, in either the food or bowel. Similarly, the constant diarrhea for the week prior to onset of coma should have minimized absorption of toxic products from the bowel. By the same token, since central nervous system aberrations appeared in both cases after intestinal hyperactivity, the value of purging and/or enemas in instances of hepatic coma, as a rational part of therapy, may be questioned. It is assumed in this case that the severe depleting effects of the diarrhea further compromised the existing low hepatic function and precipitated the syndrome of weakness, somnolence, confusion, stupor and coma.

An alternative theory to that of ammonia intoxication as a cause of hepatic coma has been the concept that the liver normally produces a substance necessary for normal cerebral function and that its absence in severe liver damage may give rise to the central nervous symptoms.[14] The development of coma in the second case cited could best be explained in this way.

Summary

1. An instance of liver disease with neurologic manifestations secondary to high-protein therapy is presented and discussed. The importance of recognition of this syndrome is stressed and an outline of therapy is given.

2. A second instance of liver disease with coma appearing after a week of diarrhea is also presented and discussed.

3. Current theories explaining the appearance of coma or other abnormal central nervous system symptoms in severe liver disease are briefly presented.

References

1. Bessman, S. P. The Role of Ammonia in Clinical Syndromes. Ann. Int. Med., 44: 1037, 1956.
2. Adams, R. D. and Foley, J. M. The Neurological Disorder Associated With Liver Disease. Research Publ., Arch. Nerv. and Mental Dis., 32: 198, 1953.
3. Schwartz, R. Blood Ammonia and Electrolytes in Hepatic Coma. J. Lab. and Clin. Med., 42: 499, 1953.
4. Riddell, A. G. and McDermott, W. V. Hepatic Coma. Lancet, 1: 1263, 1954.
5. Phear, P. A. and others. Blood Ammonia Levels in Liver Disease and Hepatic Coma. Lancet, 1: 836, 1955.
6. Quoted by Spellberg, M. A. Spectrum 5: 430, 1957.
7. Joron, G. E. Hollenberg, C. H. and Bensley, E. H. Carbon Tetrachloride — An Underrated Hazard. Can. Med. Ass. J., 76: 173, 1957.
8. Schwartz, R., Phillips, G. B., Segmiller, J. E., Gabuzda, G. A., Jr. and Davidson, C. S. Dietary Protein in the Genesis of Hepatic Coma. N. E. J. Med., 251: 685, 1954.
9. Phillips, G. B. and others. Syndrome of Impending Hepatic Coma in Patients with Cirrhosis of Liver Given Certain Nitrogenous Substances, N. E. J. Med., 247: 239, 1952.
10. Walshe, J. M. The Effect of Glutamic Acid on the Coma of Hepatic Failure. Lancet, 1: 1075, 1953.
11. McDermott, W. V., Jr., Wareham, J. and Riddell, A. G. Treatment of Hepatic Coma with L-Glutamic Acid. N. E. J. Med., 253: 1093, 1955.
12. Fisher, C. J. and Faloon, W. W. Episodic Stupor Following Porta-Caval Shunt. N. E. J. Med., 255: 589, 1956.
13. Webster, L. T. and Davidson, C. S. The Effect of Sodium Glutamate on Hepatic Coma. J. Clin. Invest., 35: 191, 1956.
14. Spellberg, M. A. The Problem of Hepatic Coma. Spectrum, 5: 430, 1957.

Dr. Goldsmith, New England Center Hospital, Boston
Dr. Chapin, 237 Turner Street, Auburn

Medicare Contract Comes Up For Renegotiation This June.

May we have your suggestions for changes in the contract and fee schedule before April 1.

Send to: Maine Medical Association, P.O. Box 240, Brunswick, Maine

Radiotherapy Of Plantar Warts

CLARK F. MILLER, M.D.* AND JOHN W. CARRIER, M.D.*

. . . nine out of every ten patients whom we were able to observe after six weeks were well satisfied with the results.

In the past five years we have treated 150 patients with plantar warts in our radiology department. A review of our records for the last year, during which 35 patients received treatment, shows the following results:

Complete relief of symptoms — 24
Partial relief of symptoms — 2
No relief of symptoms — 1
Did not return for follow-up — 8

Approximately nine out of every ten patients whom we were able to observe after six weeks were well satisfied with the results. In about half of these, the central core had "dropped out," and the wart was no longer visible. In the other half, the wart had simply become flattened out, but all pain and tenderness had disappeared. We know of no recurrences at the site of the original treatment, but we always warn the patient that the x-ray treatment must never be repeated in the event of such a recurrence.

The routine treatment we use has evolved over the years, based on our personal experience, and has now become fairly well standardized in our department. Factors are 100 KV, 1.00 mm Al filter, HVL 1.70 mm. Al, 21.5 cm. TSD, 30 Ma — giving us 500r/min in air.

Warts up to 0.5 cm. in diameter are given a single treatment of 2000r. No more than two warts are treated at one sitting. Larger warts are given smaller doses at weekly intervals, spread over two, three or four weeks according to size. (Maximum total dose over a four-week period has been 3500r, given to a very large painful lesion that had resisted all other forms of therapy; the end-result in this particular case was excellent.)

When a patient presents himself with one main central wart and a cluster of "daughter warts" around it, we treat only the central lesion. In our experience, the daughter warts have usually disappeared spontaneously when the main one is cured.

We do not treat the mosaic type of wart, because it is relatively radio-resistant and usually covers too large an area.

The exact limits of the wart are determined by paring off superficial callus where necessary, and a lead shield is applied with an opening corresponding exactly to the size and shape of the lesion.

Patients are given an appointment to return in six weeks for evaluation of the results. They are warned that the area might become somewhat more tender within one to two weeks, when the reaction to the radiation will have reached its peak. The majority of our patients, however, have not experienced this increased tenderness.

We occasionally see patients with simple calluses and hard corns but these we do not accept for treatment, as we feel that in all such cases the underlying cause of the callus should be removed, rather than the callus itself. Moreover, such lesions are not radioresponsive to the same degree as plantar warts.

COMMENTS

No attempt will be made here to review the subject of warts in general, nor to quote from the extensive literature on the matter of treatment which has appeared in radiological and dermatological journals over the years. Suffice it to say that irradiation has its proponents and its opponents, of all degrees of vociferousness, both among radiologists and dermatologists.

Our own experience over the past ten years has led us to believe that x-ray therapy is the treatment of choice, under the conditions laid down above. Among certain lay persons and physicians this valuable modality has unfortunately received a bad name in the past due to the fact that no attempt was made to restrict its use to properly trained radiologists and dermatologists. This therapeutic weapon can be a most effective one in properly trained hands, but a most dangerous one in the hands of those unskilled or inexperienced in its use. It would be just as foolish, however, to classify the axe as a worthless and dangerous tool because some unskilled woodsmen have failed to hit their mark, or have chopped off toes instead of splitting logs.

SUMMARY

Our method of treating plantar warts, and the results of treatment, are briefly reviewed.

A plea is made for the adoption of a more generally enlightened attitude toward the use of irradiation in these cases.

We feel that this method of treatment, when in the proper hands, is 90% effective, and quite safe. From the patient's point of view it has the additional merits of being convenient, painless, and economical.

*Department of Radiology, Central Maine General Hospital.
Dr. Miller, 46 Madison Street, Auburn
Dr. Carrier, Central Maine General Hospital, Lewiston

Five Year In-Patient Study Of Fractured Hips

PAUL M. BEEGEL, M.D.*

The records of the hospital provided the material for the statistics on which this paper is written. All patients treated, both private and service cases, were included in the series. This study does not include a follow-up of what happened to these patients after they left the hospital. It is hoped, however, that time will be found to supplement this work.

During the years 1952-1956 inclusive, 133 fractured hips were treated at the Central Maine General Hospital. This small figure probably does not give statistically significant results, especially, when broken down into its component parts. It may perhaps, suggest how we can deal more effectively with this problem.

These patients ranged in age from 41 to 97 years of age, with an average of 83.0 years. The average in-patient hospital stay was found to be 28 days, in contrast to the average hospital stay of other orthopedic paients, which amounted to only 18 days.

Referring to Table No. 1, it is noted than only 3 infections occurred in all patients, giving a morbidity of 2.26%. In all treatments, the number of deaths was 20, an overall mortality of 15%.

TABLE NO. 1

1952 - 1956		
Total Fractured Hips Treated*		133
Infections	3	2.26%
Deaths	20	15.0%
Treatment by Operation	104	78.5%
Infections	3	2.88%
Deaths	14	13.5%
Treatment by Conservative Means	29	21.5%
Deaths	6	20.6%

*In-patient records only

One should take cognizance of the fact that when treated by operation the mortality dropped to 13%, and when treated by conservative means the death rate rose to 20.6%. It is noted that these rates of deaths compare favorably with those quoted by other writers, in a study of the complications of fractured hips. However, it should be kept in mind that a careful review of other literature on the subject reveals that most other series are on younger age groups. The average age of the patients in other studies appears to range from 62½ years to 70 years. The fact that our mortality is not higher may be based on the fact that all series, including our own, are rather small. It is possible that the figures are not completely significant in this respect. As demonstrated later, the greater number of deaths in patients with fractured hips, are caused by medical complications, and not the fractured hip or the surgery, per se. All this suggests that conservative means are to be used with caution.

Table No. 2 demonstrates the methods which we have used in our hospital in the operative treatment of fractured hips. It is to be noted that all infections appear to have occurred with the use of the Smith-Peterson nail and attached plate. The significance of this is open to question, but one may suspect that perhaps the more prolonged operating time, the greater exposure and the increased tissue damage may play a part. This, of course, presumes that preparation of the patient, technique and other factors leading to infection are controlled adequately.

The mortality in this group seems to be rather high, amounting to 19.1%. When one notes that this is a smaller group than normal and recomputes his figures on this basis, he will find that the over-all internal fixation is only 12.6%. This, then, places the mortality rate back at the level comparable with the figures given by larger centers. The same thing is actually true of the infection rate, which, in the table, is given for the individual group, rather than the over-all handling ratio.

It should be noted that a greater number of our patients appear to have trochanteric fractures of one sort or another, where the injury is most probably due to direct trauma.

It is noted that insertion of a prosthesis has a mortality of 17.6% which appears high. However, an analysis of the charts reveals that here again we have a small group which tends to push percentages up to a higher level. Still, further, it is noted that this operation was frequently done for poor risk patients in an attempt to get ambulation at the earliest possible date. Basically we find that the trauma of a prosthesis insertion is no greater than that of hip nailing, and with one type of prosthesis, may be somewhat less, even though necessary exposure may be somewhat more expansive.

Excision of the head of the femur is almost always greeted by the uninitiated as a terrible procedure. Actually it was originally devised for patients who have been bedridden and are not expected to get out of bed. In this respect the operation serves a useful purpose in removing the fracture and on healing of the soft tissues gives a reasonably painless hip. The hip is, however, obviously flail. It has been found that this flail hip

*Orthopedic Staff, Central Maine General Hospital, Lewiston.

TABLE NO. 2

	Internal Fixation — Hips			Other Operative Treatment	
Type	*Smith-Peterson Nail*	*Smith-Peterson & Thornton Plate*	*Blade Plate*	*Excision of head*	*Prosthesis*
Head Only	0	0	0	0	0
Sub Capital	2	5	0	0	7
All Transcervical	11	8	1	1	9
Impacted Neck	0	0	0	0	0
Base Neck	2	6	2	1*	1
All Trochanteric	0	28	21	0	0
Totals	15	47	24	1	17
Infections	0	3	0	0	0
Deaths	0	9	2	0	3
		19.1%	8.3%		17.6%

*Done for infection not as a primary procedure.

can be walked on with an adequate degree of stability with a shoe lift. The gait is a severe gluteal type of limp. Actually, it is no different than the gait of the patient with a congenital dislocated hip which has never been treated. The procedure is mentioned neither to recommend nor discourage it. It has a place in the armamentarium of treatment for fractured hips but it should be reserved for a small group of carefully selected patients.

Referring to Table No. 3, one notes that we have a fairly large number of patients who were treated by conservative methods. Several reasons are apparent for this form of treatment:

First and foremost is the fact that the patient was medically inoperable and could not be gotten into adequate condition to make operation safe or feasible.

Second, severe senile dementia, in which it was felt that the patient would be unable to utilize the benefits of surgery in any way.

Third, failure to obtain permission for operation, either from the patient himself or from relatives and friends responsible for the patient's welfare.

Last, and most important, is a large number of comminuted fractures which are not readily amenable to other forms of treatment with any appreciable success.

The mortality rates again rise with conservative therapy, and it is to be noted that as the therapy becomes more conservative, the mortality rises almost in direct proportion to the conservatism exhibited. This fact should be kept in mind by all those seeking to treat the fractured hip and by referring physicians in discussing the matter with the family, prior to referral of the patient.

No patients in this series were treated with Russell's Traction. Although it is expected that results would be somewhat comparable to balanced traction, it provides the difficulties so prevalent with skin traction.

It would also be expected that a much higher proportion of patients would be treated by balanced traction.

TABLE NO. 3

Conservative Treatment — Hips

Type	*Balanced Traction*	*Bucks Traction*	*Spica*	*Bed Rest*
Head only	0	0	0	1
Sub-Capital	0	1	0	0
All Transcervical	1	4	1*	2
Impacted Neck	0	1	1	0
Base Neck	0	0	0	0
All Trochanteric	0	10	1	6
Totals	1	16	3	9
Deaths	0	3	0	3
		18.8%		33.3%

*For transportation only

This was not found to be so. Neither was the more mobile Russell's traction. One must presume, therefore, that the men using Buck's Extension as a direct form of therapy have been sufficiently satisfied with their end results to continue in its use. Only three patients were treated with spicas. In one patient this was used for transportation of the patient to another hospital and the other two patients had impacted fractures.

Bed rest as a form of treatment was used, only with the most debilitated of patients, using sand bags to assist in the resting of the affected leg. The mortality rate seems highly suggestive that this is not the treatment of choice in any patient regardless of his status.

Table No. 4 is an attempt to correlate the relationship of death to the type of treatment given. Most deaths are found to be due to broncho-pneumonia, which, as the largest cause of death in all patients, is found to be equal in both operative and non-operative patients. Considering the average age of our patients, this most likely is the result of hypostatic problems, combined with the age of the patient. It is noted that all other deaths, with the exception of one, appear due primarily either to medical or geriatric complications present in any group of patients in this age group. It is questioned sincerely whether these complications are caused by, or aggravated by the surgery, per se, since most of them actually occur at a date somewhat distant from the actual operation. The one case which died of pulmonary embolus was listed as non-cooperative, refusing to move or be moved, with the end result which one might expect from such behavior, regardless of the type of surgery done.

Our list of complicating causes of death also follows the causes found by other writers on the subject. The death from tuberculous pneumonia is most unusual.

Table No. 5 points out the very obvious fact that as the age of the patient increases, the mortality increases with it. This rises to a maximum of 38.5% in the group in the ninth decade of life. The group here, however, is also much smaller, which one would expect, if he reviews the average insurance company actual table. It should be obvious, however, that as the age of the patient rises one may expect more complicating factors arising from the surgery and that these patients also have a greater percentage of complicating factors in their medical make-up.

One should note, also, the difference statistically between the mortality for the group and its difference from the total in the overall picture.

TABLE NO. 4

Relationship of Death to Treatment

Cause Death	*Smith-Peterson Nail & Thornton Plate*	*Blade Plate*	*Traction*	*Bed Rest*	*Prosthesis*
Pneumonia	4	1	2	2	1
Rheumatic Heart Disease	1	0	0	0	0
Cerebral Vascular Accident	2	0	0	0	1
Coronary Occlusion	1	0	0	0	0
Cardiac Failure	0	1	1	0	1
Tuberculous Pneumonia	0	0	0	1	0
Pulmonary Embolus	1	0	0	0	0
Totals	9	2	3	3	3

TABLE NO. 5

Deaths by Age Groups

Age	*Number Patients*	*Died*	*Percentage Group*	*Percentage Total*
40-49	6	1	16.8	0.75
50-59	7	0	0	0
60-69	18	1	5.5	0.75
70-79	48	2	4.2	1.5
80-89	41	11	26.8	8.25
90-99	13	5	38.5	3.76
Total	133	20		15.0

TABLE NO. 6

PROSTHESIS OPERATIONS

Total 29 Patients		
Ages 49-87		*Average Age 82.6 Yrs.*
Judet Ossacryl	8	27.6%
Eichter (Original)	8	27.6%
Moore	12	41.3%
Special	1	3.4%

Table No. 6 shows that 29 patients in our hospital were treated by the insertion of an artificial hip joint. The four types are listed, and are commonly known, with the exception of the special prosthesis, which was a custom built vitallium prosthesis, for the replacement of approximately half the upper end of the femur.

TABLE NO. 7

REASONS FOR USING PROSTHESIS

Aseptic Necrosis	2	6.9%
Malum Coxae Senilis and Osteoarthritis	3	10.0%
Non-Union	4	13.8%
Non-Union and Avascular Necrosis	1	3.4%
Loss of Bone	1	3.4%
Fresh Fractures	18	62.0%

The reasons for use of a prosthetic appliance are many and varied. Our reasons are given in Table No. 7. It is felt that the standard reasons are straightforward enough so that they need no explanation. We have used 18, or 62% of our prostheses for the treatment of fresh fractures. It is questionable as to whether the use of these replacement items always is wise, in view of complicating factors which appear to be present in the handling of these prosthetic appliances. It should be remembered that primarily, this item is a replacement for an injured or destroyed hip, where the situation does not warrant surgery of other nature. It can, perhaps, cut down on complications of worse nature. The situation thus resolves itself into an attempt on the part of the surgeon to accept the lesser of two evils. For instance, in a patient where the neck of the fracture is severe or comminuted and it is felt that the patient will be troubled by an inadequate reduction, poor maintenance of reduction with distortion of the hip, and/or a succeeding non-union or avascular necrosis, it has been our practice to utilize a prosthesis. Still further, it has frequently been our practice to utilize a prosthesis when we feel that early ambulation of the patient is essential to his well being and survival. In such instances we have frequently used a prosthesis, when quite possibly some other method of therapy would have given us less trouble, at least for a period of time.

It will be noted that there is a 58.8% rate of complicating factors on Table No. 8, and this rate of complication alone would indicate that we have not, as yet, solved the problem of the hip fracture, and certainly, this author would not advocate the prosthesis as its solution, except in highly specialized situations — and then only with carefully selected patients.

Death, as may be seen, closely parallels those causes which are usual in all of these patients in this age group.

Two dislocations occurred, and in both instances they occurred in patients who had anterior approaches made. This would seem to validate the contention of some authors that the failure of the anterior capsule is a provoking cause. This author disagrees, in that he does not close the capsule post-operatively, and only one of his cases dislocated. Still further, he has seen one dislocation occur in a patient operated on from a posterior approach. It is probably the end result of a number of factors, or combination of factors, including — muscle balance, prosthesis fit in the acetabulum, shape of the acetabulum, amount of neck resected, and other causes less readily discernible.

It is felt that the posterior approach has the advantage of removing certain difficulties in the anterior approaches: No muscle stripping is necessary; only small muscles are transected; exposure is easier and more complete; partial denervation of the hip joint may be accomplished for diminished post-operative pain; closure is more easily effected, particularly in poor operative risks; and drainage would be more efficient in the event of infection.

Seven fractures were encountered, with the greater number occurring with the Eichter prosthesis. In all instances we used the original model prosthesis. Shortly after abandoning this item (which was responsible for the greater number of difficulties encountered), the design was changed by the originator. Although we have not used the new design, its similarity to certain other types of appliances should, no doubt, simplify the technique of its insertion, and cut down on the complications in its use.

The problems in technique in the insertion of these appliances may be readily imagined from the remaining complicating factors, with the exception of failure of wound healing. In all instances difficulty may be encountered, and on occasion, even the most skillful of surgeons may get into almost insurmountable difficulties.

We wish to emphasize that the hip prosthesis, regardless of type, is in our opinion merely a substitute, to be used in highly specialized instances. It is not a panacea for all the evils which may befall the patient with a broken hip. It may, indeed, raise problems of its own, which will be of considerable consequence to both the surgeon and his patient, if it is used indiscriminately and without proper selection by patient.

TABLE NO. 8

Complications of Prostheses

Total	17	58.8%
Deaths	3	10.0% Av. Age 83.5
1 Moore, 2 Judet		
1 Pneumonia		
1 Cerebral Vascular Accident		
1 Cardiac Failure		
Dislocations	2	6.9%
Both Moore, Anterior Approach		
Fractures	7	24.2%
5 Eichers, 2 Moore		
Protrusion through cortex	2	6.9%
1 Eicher, 1 Moore		
Failure Wound Healing	1	3.7%
Leg too long	1	3.7%
1 Eicher		

Discussion

Certain facts are suggested by this study. It is true that there is in this paper no set solution to the problem of the fractured hip. Insofar as the individual case is concerned, the technique to be used should be that which gives the best results in the hands of the individual surgeon doing the job.

In addition to the above, the plea is made to remember that the fractured hip is only a part, albeit a problem part of the patient. The patient himself is actually the problem as such. He frequently needs more attention and care than his hip.

Because of his usual advanced age, he usually has a host of medical complaints which may need care preoperatively and/or postoperatively. This medical care should be given in teamwork with the surgeon, and by this means many complicating factors may be obviated or reduced in their complexity and severity. The ounce of prevention is still worth more than the pound of cure.

The teamwork must also be extended to include the anesthetist and the nursing staff. The work of these people forms a condition of "sine qua non." Frequently they can cue the surgeon to a complication before it becomes one.

Last, but not least, these patients can be helped by a few words of encouragement, preferably preoperatively, and more preferably by a trusted family physician. These words of assistance may mean the difference between life and death, and they are one of the cheapest and most effective forms of medication available.

References

1. Cleveland, M.; Bosworth, D.; Thompson, F. R.; Intertrochanteric Fractures of the Femur. A Survey of Treatment in Traction and by Internal Fixation. Journal Bone & Joint Surgery 29:1049, 1947.
2. Boyd, A. B., and George, I. L.: Complications of Fractures of the Neck of the Femur. (Symposium). Journal Bone and Joint Surgery 29:13, 1947.
3. Hudson, O. C.: Fractures of the Neck of the Femur. Jour. Intern. College of Surgeons X: 423, 1947.
4. Hudson, O. C.: The Use of Excision of the Head in the Treatment of Fractures of the Neck of the Femur. Jour. Kentucky State Med. Assn.: Nov. 1952.
5. Symposium: Fractures of the Hip. Jour. Amer. Med. Assn. 137: July 31, 1948.
6. Moore, Moore, Jr.: Trochanteric Femoral Fractures with Specific Reference to Complications. Amer. Jour. Surg. 84: 449, 1952.

80 Goff Street, Auburn

Social Security For Physicians

Results of Poll of Members of MMA as of March 10:

350 YES 195 NO

Please mail your reply card promptly.

Practical Error In Urinary Bacterial Colony Counts

Ronald S. Potts, M.D.*

Having recently undertaken the performance of urinary bacterial colony counts in our laboratory, it seemed advisable to demonstrate possible error inherent in a method so completely dependent on the proliferative activity of living bacteria.

The value of urinary bacterial colony counts has been established by several investigators[3,5] and we are completely in accord with the criterion of 10^5 or more bacteria per centimeter of uncentrifuged urine as indicating true urinary tract infection[3,6] if supported by other indications.

Any delay between the time the urine is obtained and the culture technique actually begun might serve to introduce considerable error into the results. Such a delay is too often unavoidable in the busy general hospital.

Procedure

The technique advocated by the New England Center Hospital in Boston, Massachusetts was utilized. Using sterile precautions, 0.05 cc. of received urine was added to 50 cc. of sterile saline. One cc. of this 1:1000 dilution was then added to a tube of sterile melted agar (50-55°C) and poured immediately into a sterile Petri dish for overnight incubation at 37°C. The number of bacterial colonies per cc. of urine was then calculated. When the colonies were numerous, the number of colonies per cm^2 of pour plate area was counted and then multiplied by the surface area of the plate. The third dimension was ignored since counting the colonies suspended in the medium was comparable for practical purposes to expanding the surface area so that all colonies would be on one plane.

This procedure was performed on the first 30 urine specimens submitted for this examination within a few minutes after being received in the laboratory; and again on each speciman after standing thirty minutes at room temperature (21°C).

Results and Comments

Fifteen of the first 30 urine specimens on which this procedure was performed yielded positive cultures. Two of the 15 specimens yielding no growth on the count plates subsequently produced very scanty growth in nutrient blood broth.

Figure 1 reveals the variation in colony counts obtained by a delay of thirty minutes at room temperature. The error introduced was positive in eight instances, negative in six, while one count remained unchanged. The range in error varied from -95% to +560%. The one count, initially O yielding a practical error of +100,000% thirty minutes later has been ignored since the second count of 1000 colonies per cc. indicates contamination in the absence of other indications of urinary tract infection.[5,6]

All the positive count cultures but one showed error on the second delayed determination. It was surprising to find the error negative nearly as often as positive. The reason for this is not evident. None of the patients whose urine gave a negative error were receiving antibacterial agents at or prior to the time the specimen was obtained.

Each 0.5 cc of urine was pipetted from near the bottom of the urine sample vessel. During the first few duplicate determinations, the same pipette used to obtain the 0.05 cc. of urine was also used for the subsequent 1:1000 dilution. Theoretically, this should have made positive errors; but this was not always the case.

Only two of the counts with a negative error yielded a mixed culture so that bacterial antagonism is not the sole explanaion. The presence of a bacteriophage is a possibility but the negative errors should have been much greater if this had been so.

The organisms isolated were Pseudomonas, Proteus, and coliforms with the latter predominating. No correlation between genus and direction of error is evident. Three counts yielding negative errors grew pure cultures of Proteus which was most surprising. However, the error here may have been more visual than mathematical.

Regardless of the error, all urines giving initial counts over 10^5 organisms per cc., also did so on the delayed determination. Hence, if the delayed count had been reported to the clinician, it would not have been misleading.

The delay of thirty minutes was arbitrarily chosen as representative of the frequent interval between the time the urine is obtained and the medium inoculated in routine urine cultures. On busy week-ends and holidays with reduced technician coverage, the delay probably would be even greater. Urine specimens are not always brought immediately to the laboratory for culture.

Unfortunately from the standpoint of what was hoped

*Resident in Pathology, Central Maine General Hospital, Lewiston, Maine.

FIRST COUNT	*SECOND COUNT* (½ *hour later*)	*% ERROR*	*BACTERIUM*
$147x10^4$	$140x10^4$	-95	Aerobactor & Pseudomonas
$40x10^3$	$35x10^3$	-88	Proteus
$160x10^4$	$128x10^4$	-80	Proteus
$1536x10^2$	$1216x10^2$	-79	Intermediate coliform
$14x10^4$	$10x10^4$	-71	Proteus
$960x10^4$	$640x10^4$	-67	Proteus & Pseudomonas
$19x10^3$	$19x10^3$	0	Proteus
$544x10^4$	$640x10^4$	+118	Proteus & Staph albus
$335x10^3$	$422x10^3$	+126	Escherichia
$190x10^3$	$243x10^3$	+128	Proteus
$128x10^4$	$173x10^4$	+135	Escherichia
$832x10^4$	$1280x10^4$	+154	Proteus
$2560x10^3$	$4288x10^3$	+167	Escherichia
$19x10^3$	$87x10^3$	+459	Paracolon
$64x10^4$	$306x10^4$	+560	Escherichia
(0	10^3		coliform)

FIG. 1: The error introduced in urinary bacterial colony counts by a delay of thirty minutes at room temperatures (21° C).

to be demonstrated, only two counts initially fell between 10^4 and 10^5 organisms per cc.; and only one of these revealed error on the delayed count. This was the specimen with an initial count of 19,000 organisms per cc. and a delayed count of 87,000 organisms per cc. In cases such as this, the error introduced causes the count to approach the all-important criterion of 10^5 organisms per cc. Conceivably the erroneous count could exceed this criterion; or, if the introduced error were negative, could be decreased below this criterion.

Physicians who rigidly rely on urinary bacterial colony counts as the sole indicator of true urinary tract infections are thus likely to be misled. This quantitative bacteriological procedure is useful and helpful; but it must be kept in proper perspective and interpreted as to the presence or absence of other indications of urinary tract infections — no matter how capricious the latter may be.

A very simple and valuable quantitative bacterial study is the microscopic examination of a wet smear of one drop of uncentrifuged urine stained with a contrast dye, such as methylene blue. If visible by this method, the bacteria are present in concentrations of at least 10^5 organisms per cc.[4] and the general morphology of the organisms is immediately known. If done by the laboratory, the expense is negligible. If done by the physician, the error of delay is only that introduced by himself.

SUMMARY

To be most meaningful, urinary bacterial colony counts must be performed with as little delay as possible between the time the specimen is obtained and the medium inoculated. Many times such a delay is unavoidable with resultant error in the colony count. If the true count approximates the critical criterion of 10^5 organisms per cc. of uncentrifuged urine, this positive or negative error can be misleading unless other indications of urinary tract infection are assessed.

There should be less chance of error in examining a wet smear of uncentrifuged urine stained with methylene blue. The same criterion of 10^5 organisms per cc. is applied and has the same meaning.

(The technical assistance of Miss Frances LeClair is gratefully acknowledged.)

REFERENCES

1. Guze, L. B.; Beeson, P. B., "Observations on the Reliability and Safety of Bladder Catheterization for Bacteriologic Study of the Urine," New Eng. J. Med. 255: 474-475, 1956.
2. Kass, E. H.; Schneiderman, L. J., "Entry of Bacteria into Urinary Tracts of Patients with Inlying Catheters," New Eng. J. Med. 256:556-557, 1957.
3. MacDonald, R. A.; Levitin, H.; Mallory, G. K.; Kass, E. H., "Relation between Pyelonephritis and Bacterial Counts in the Urine: An Autopsy Study," New Eng. J. Med. 256:915-922, 1957.
4. Philpot, V. B., Jr., "Bacterial Flora of Urine Specimens," J. Urol., 75:562-568, 1956.
5. Sanford, J. P.; Favour, C. B.; Mae, F. H.; Harrison, J. H., "Evaluation of 'Positive' Urine Culture. An Approach to the Differentiation of Significant Bacteria from Contaminants," Am. J. Med. 20:88-93, 1956.
6. Personal communication with Dr. Leonard Kogan, New England Center Hospital, Boston, Mass.

Subphrenic Abscess With Thoracic Complications

Case Report

Louis Fishman, M.D.

Subphrenic infection . . . which has diminished in incidence and severity with the advent . . . of antibiotics . . . must be kept in mind.

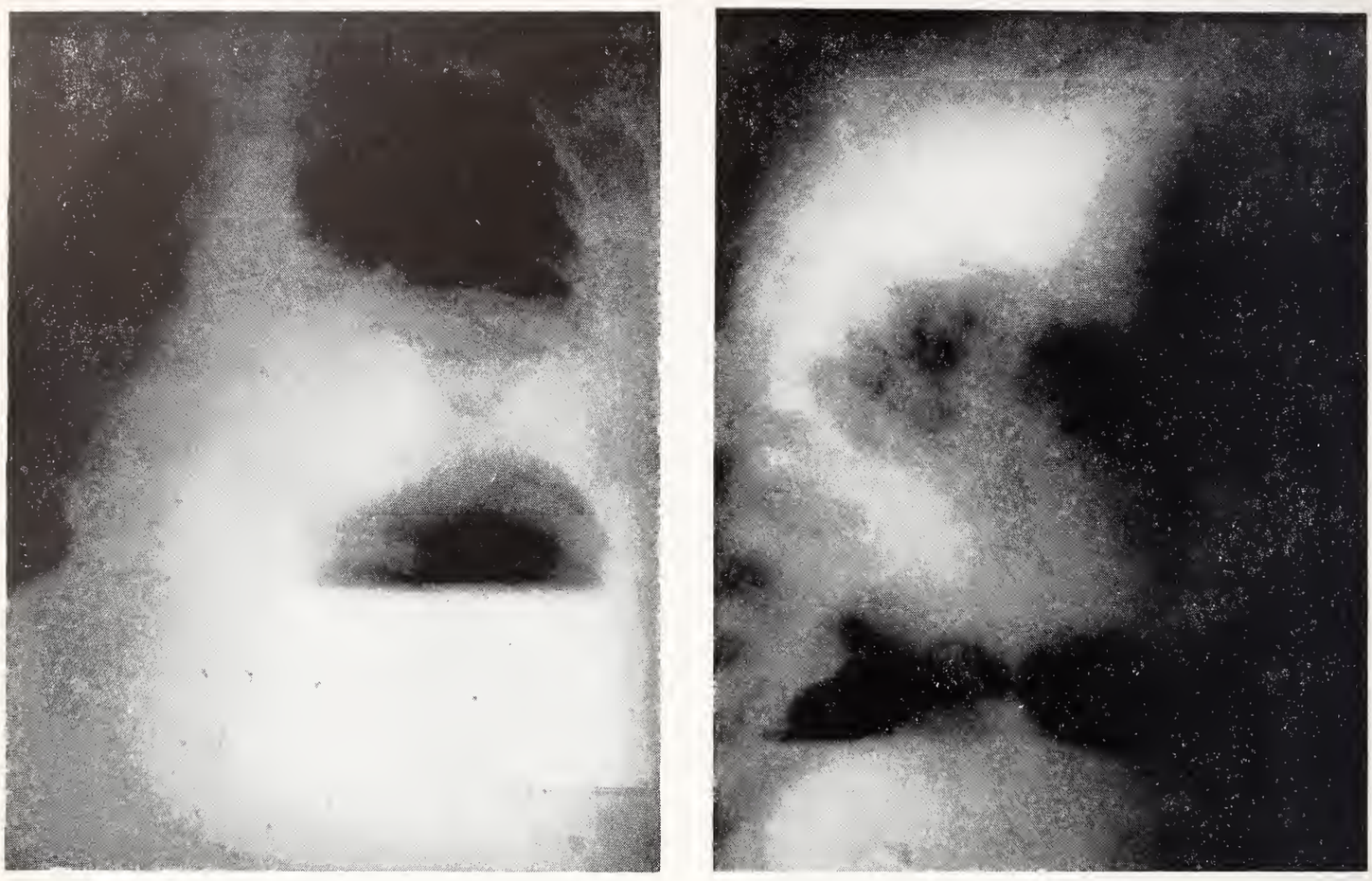
Subphrenic infection is a disease entity which has greatly diminished in incidence and severity with the advent and more liberal use of antibiotics. Only about 30% of the subphrenic infections go on to suppuration, the other 70% subside spontaneously. The mortality has dropped to 40% of that which was observed prior to the wonder drugs. In spite of its diminishing incidence, we must keep it in mind. Once suppuration has occurred, the condition is a serious threat to life, the mortality rate is over 90% in the unoperated cases.

Any intra-abdominal infection or supradiaphragmatic infection may initiate a subphrenic inflammatory process and lead to abscess formation. However, perforated peptic ulcers, inflamed appendices, diseases of the biliary tract, and gastric surgical procedures account for the vast majority of the subphrenic infections. Of the subdiaphragmatic abscesses 75-80% have their inception in the perforation of a peptic ulcer or an inflamed appendix. The infecting organisms most commonly involved are the colon bacillus (38%), staphylococcus (25%), streptococcus (32%) and mixed infections (25%). About five percent of the abscesses are sterile.

The diaphragm is richly endowed with a network of lymphatic vessels which drain into a series of nodes lying upon its superior surface. Consequently any infection in contact with the diaphragm is likely to extend through the latter to produce a supraphrenic inflammation. The lymph flow is from below the diaphragm into the nodes. These nodes are covered by pleura which lines the upper surface of the diaphragm. The pleura is easily involved in the inflammatory process. The subphrenic infection produces an intrathoracic reaction in about 75% of the cases. As the subphrenic process becomes more localized there is a tendency for the diaphragm to become grossly involved. This frequently terminates in a perforation of the diaphragm with the establishment of a direct communication between the subphrenic infection and the thoracic cavity. Whether empyema, pneumonitis, or bronchopleural fistula develops after perforation of the diaphragm by a subphrenic abscess depends on the existance of a free pleural space. If the basal portions of the pleura are not adherent to the diaphragm, perforation is followed by extensive empyema; the empyema may rupture later into a bronchus. The mortality rate of people with thoracic complications is about 50%.

Case Report

A 42-year-old white female was admitted to the CMGH on 11/15/57 with a history of sudden severe upper abdominal pain accompanied by vomiting which had started 18 hours earlier. The physical findings and the x-ray findings were consistent with a diagnosis of a perforated gas containing viscus. A laparotomy was performed and a perforation in the stomach was sutured. The patient was closed without drainage. She was placed on Combiotic® b.i.d. and Wangensteen suction. The Levine tube was removed after three days. The patient's convalescence was marred by a persistent fluctuation in her temperature with fever up to 102° and pain in the left upper quadrant of the abdomen. She developed an irritating cough. The sutures were removed from the abdominal wound on 11/25/57. The patient's temperature following the removal of these sutures began to spike to as high as 103.6°. A chest x-ray on that day (Fig. A and B) showed an increase in the elevation of the left diaphragm as compared to that in a previous film and more marked reaction at the base of the left lung. There was a considerable amount of air beneath the diaphragm with an air fluid level demonstrated, but it could not be determined with certainty whether this was in the stomach or intraperitoneal. It was considered that the former was more likely. In respect to the intrathoracic aspect of the film, the opinion considered most strongly was that



A B

FIG. A and B: Films showing P-A and lateral views of the elevated left diaphragm with the air-fluid level below and the supradiaphragmatic reaction of pleural fluid and pulmonary infiltration prior to perforation of the diaphragm.

the left lower lung field was more consistent with atelectasis then with infiltration, but a combination of the two was considered highly probable. Fluid could not be ruled out with certainty. Pain persisted in the left side and the patient developed chills. By 11/28/57 the pain in the left hypochondrium became quite severe and was radiating into the left shoulder. The patient was very uncomfortable and was sweating profusely. On the morning of 11/30/57 her breathing became shallow and she was started on nasal oxygen with some improvement in her color. BP was 118/90, P-136, R-28. The left chest was dull to percussion from the 4th intercostal space downward and hyper-resonant above. Breath sounds on the left were distant. The right chest was normal. X-ray on 11/30/57 (Fig. C) showed a 50% collapse on the left lung with an air fluid level in the left pleural space. The air fluid level beneath the diaphragm was still present. The impression at this time was a subdiaphragmatic abscess with perforation through the left diaphragm. The WBC was found to be 18,000 with 8 monocytes, 6 lymphocytes, 1 myelocyte, 1 juvenile, 37 stabs, and 46 mature neutrophiles. The polys showed toxic granulations. A closed thoracotomy was done inserting two chest tubes, one in the 6th intercostal space in the posterior axillary line and the other in the 2nd intercostal space in the anterior axillary line. These were connected to a subaqueous deflation system with suction. An immediate escape of 1800 cc of foul smelling purulent material was obtained with expansion of the lung. Within the next few days the temperature dropped somewhat and the patient's general condition improved. By 12/7/57 the total drainage was 3,725 cc of the same foul smelling purulent material. On this date the patient began having some rales at the base of the left lung and coughing up a foul smelling material in small amounts which had the same odor of that coming from the pleural space. A decision to drain the subphrenic space was made and on the morning of 12/8/57 through a posterior approach this space was drained releasing a large amount of purulent material. Her convalescence from that point on was uneventful. She was discharged from the hospital on 12/23/57. Her drainage tubes were slowly shortened and finally completely removed by January 13, 1958. The patient is well and working.

The material from the chest showed Gram + cocci and Gram — bacilli, but nothing could be cultured. The material from the subdiaphragmatic space cultured Hemolytic Staphylococcus Albus.

DISCUSSION

This case illustrates the sequence of events in the in-

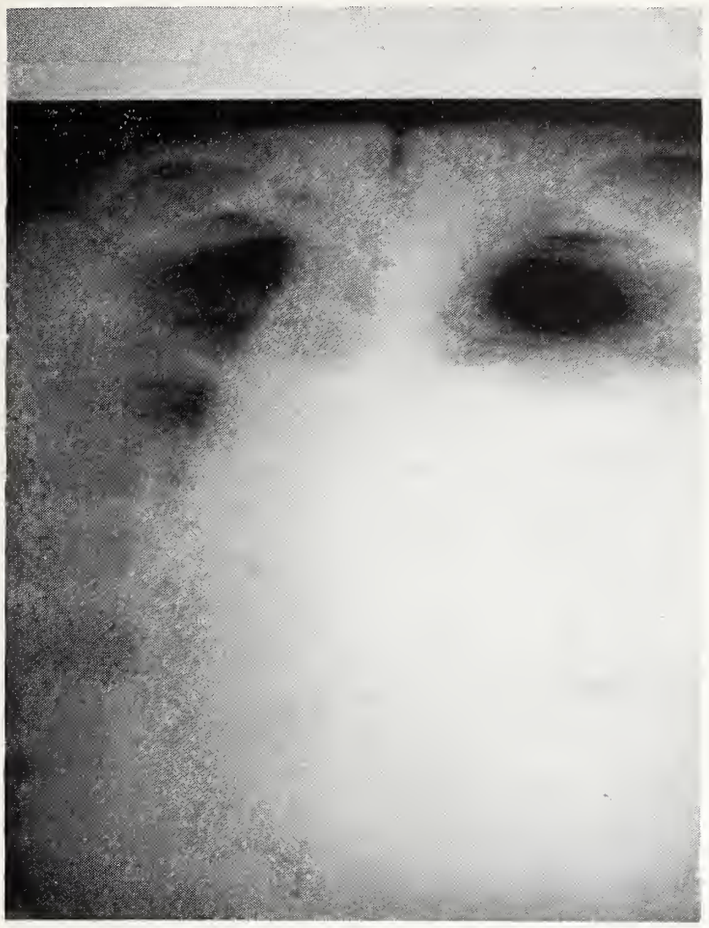


FIG. C: The partially collapsed lung with an intrathoracic air-fluid level is now evident after the perforation of the diaphragm has occurred.

ception and progression of a subphrenic abscess. The fever, chills, pain, elevated diaphragm, and the supraphrenic involvement all pointed squarely to the diagnosis. Later, perforation of the diaphragm with acute empyema, occurred. The chest was drained by a closed thoracotomy. The patient's general appearance and condition improved over the next few days and it was thought that the subphrenic abscess might evacuate itself through the opening in the diaphragm. It became obvious when the temperature remained elevated and the x-rays continued to show a subdiaphragmatic fluid level that evacuation via this route would not occur. In a few days a bronchial fistula appeared. Drainage of the subphrenic space was then instituted with good results bearing out the point that when empyema develops as a complication of a subphrenic abscess, drainage of both areas must be established independently. The fistula closed very rapidly. We were very careful to leave the drains in place an adequate length of time to prevent recurrence of a subphrenic abscess.

SUMMARY

1. Subphrenic infections have greatly diminished in incidence and severity with the advent of antibiotics. However, once suppuration has occurred it is a serious threat to life, the mortality rate being over 90% in unoperated cases.

2. Any intra-abdominal infection or supradiaphragmatic infection may initiate a subphrenic inflammatory process and lead to abscess formation.

3. Involvement of the supraphrenic space by a subphrenic abscess is usually through a rich supply of lymphatics in the diaphragm. A reaction in the pleural space is thus produced in about 75% of the cases of subphrenic abscesses. If the abscess becomes localized, the diaphragm may become grossly involved terminating in perforation of this structure.

4. An illustrative case report of a subphrenic abscess with perforation of the diaphragm and acute pyopneumothorax formation is presented.

REFERENCES

1. Beye, H. L.: The Thoracic Complications of Subdiaphragmatic Infections, J. Thoracic Surg. 1: 655-662, 1932.
2. Clagett, O. T. and Tinney, W. S.: Subphrenic Abscess with Special Reference to Intrathoracic Complications, Am. J. Surg. 66: 189-195, Nov. 1944.
3. Ochsner, A. and DeBakey, M.: Subphrenic Abscess, Surg., Gyn., and Obst. 66: 426-438, 1938.
4. Shea, P. C., Jr. and Holden, W. D.: Subphrenic Abscess, Arch. Surg. 57: 843-848, Dec. 1948.
5. Vior, W. N.: Appendicitis with Perforation and Subphrenic Abscess (Report of a case with unusual complications), Am. Surgeon 21(1): 73-76, Jan. 1955.

327 Main St., Lewiston, Maine

U.S. Surplus Giveaways Hit Peak, Still Rising

Setting a new record, more than $70 million in Federal surplus property went out for distribution among public health, educational and civil defense agencies in fourth quarter of 1957. It marked the first time the $70 million plateau was reached. Every state, territory and possession except Virgin Islands shared in apportionment of $70,027,390 in personal property and $1,197,175 in real property, according to the quarterly report issued by the Department of Health, Education and Welfare.

HEW's surplus property unit points out that increasing quantities of electronic equipment, precision instruments and other supplies used for teaching and research in colleges, professional schools and hospitals are going into the surplus pool. Nonprofit institutions are eligible recipients, through application to state authorities. Note: It is estimated that the value of Federal surplus giveaways in current fiscal year will be 100 per cent higher than last year.

Treatment Of Osgood-Schlatter's Disease
(Tibial Tubercle Epiphysitis)
Case Reports

Allan J. Stinchfield, M.D.

. . . it has been thought that the bony epiphyseal changes of this disease are only a manifestation of inflammatory or other hyperemic pathology in the surrounding soft tissues. . . .

Tibial tubercle epiphysitis or Osgood-Schlatter's Disease is a chronic, mildly disabling condition which classically has been treated by limitation of activity and some form of splinting. Surgical treatment also has been recommended by a few. All forms of treatment are time-consuming or traumatic, and, therefore, in my mind, raise doubts as to their true efficacy.

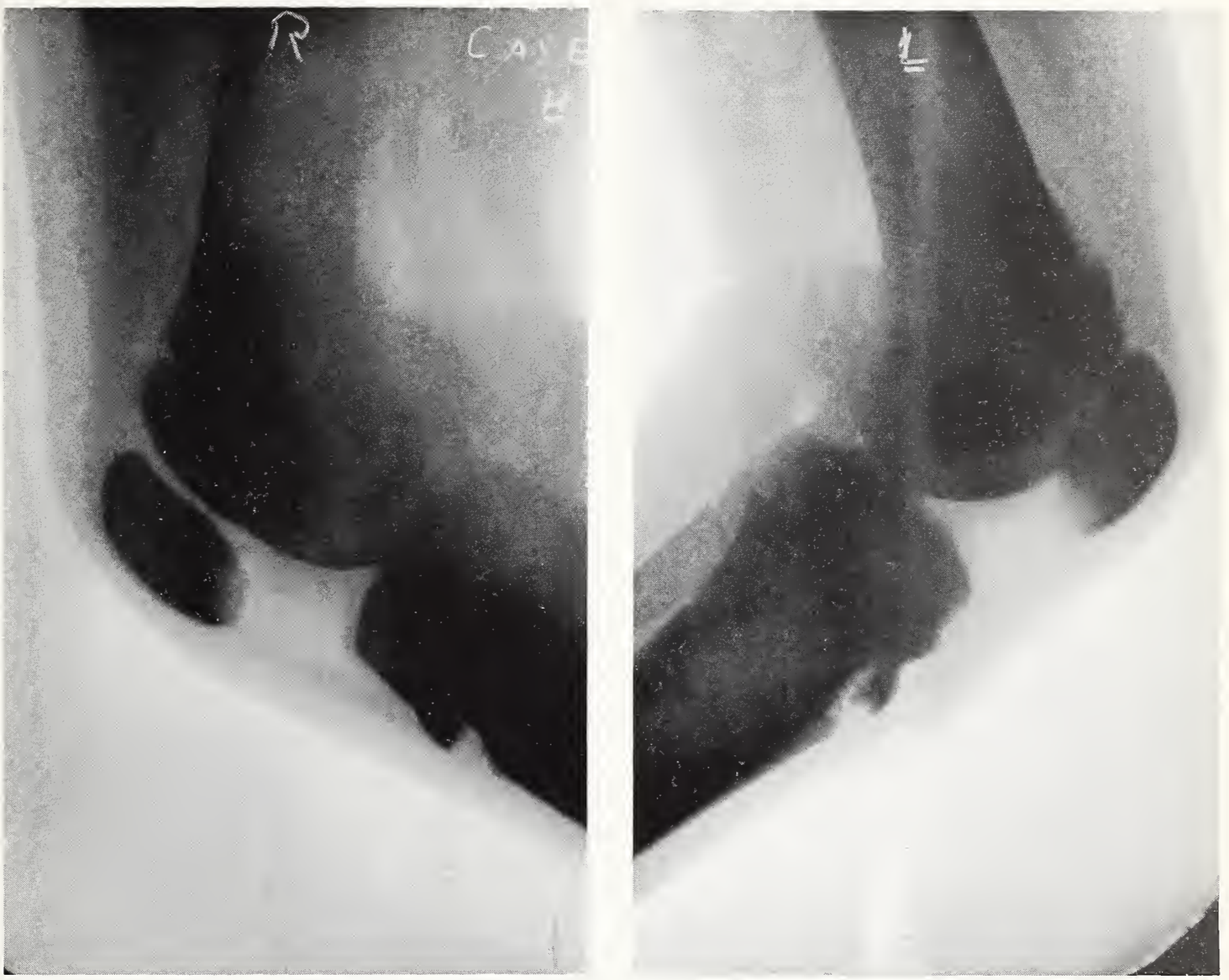
The following four case reports tend to indicate that cortisone derivaties injected locally about the tibial tuberosity exert a remarkable curative effect on this disease.

Case Reports

I. W.A.McD., male, age 15, was first seen on December 3, 1954, complaining of pain over the left tibial tubercle for one month, following an injury in football. It "bothered" a little walking and "hurt" more on flexing the knee 90° or more. There was no night pain; no heat and no redness. Previous history, family history and system review were essentially negative. Physical examination reveals negative findings except for the left knee. Here, he had full extension. Flexion of over 120° gave considerable pain at the tibial tubercle. There was local swelling of the soft parts with increased "bony" prominence. There was no redness and no heat. On December 9, 1954, the patient was admitted to the Augusta General Hospital and 33 cc. of 1% Procaine® and 6 cc. of plain Hydrocortone® (hydrocortone acetate — saline suspension; 17 hydroxy-corticosterone-21 acetate) were injected locally. For 48 hours, he had some increase in local swelling and pain. On December 15, a long leg plaster cylinder was applied and left on for two weeks. On January 7, there was no local tenderness but he still had slight pain on flexion beyond 170°. On January 21, 1955, (43 days after injection) no pain, no swelling and no limitation of motion were present. On May 29, 1957, when the patient was seen again for another complaint he had no history of further trouble with his left tibia. X-rays, at this time, showed the tibial tuberosities on the two sides to be symmetrical. There was no hypertrophy of the previously involved tuberosity. None of the epiphyses surrounding the knee joint were completely closed.

II. K.G.Y., female, age 12, was first seen November 2, 1956, with complaint of pain and swelling below the left knee of about two years' duration. Pain in the region of the tibial tuberosity was aggravated by violent exercise. No definite injury was associated with the onset. She was very athletically inclined. Previous history, family history and systemic review were non-contributory. Physical examination of the knee revealed full range of motion. There was no A-P and no lateral instability; no increase in joint fluid; no thickening of periarticular structure; no redness and no heat. The left tibial tuberosity was much more prominent than the right. There was considerable tenderness over the whole area. The local prominence seemed to be mainly bony rather than soft tissue. On November 9, 10 cc. of 2% Procaine and 2 cc. of Hydrocortone TBA® (hydrocortisone tertiary-butylacetate) were injected into the involved region and the patella tendon. She was told that no restriction of activity was necessary. On November 16, the family reported that she had no pain after the second day following treatment and had been exercising violently as a cheer leader. There was no local tenderness and the swelling was less. On November 21, 1956, when seen, the condition had improved further. (see X-rays taken, November 2, 1956) Condition was unchanged on December 30, 1957.

III. M.O.J., male, age 14, was first seen on August 22, 1957. The chief complaint was tenderness below the left knee cap following a football injury 1½ years before. He had continued doing his usual exercise. In June 1957, his family doctor put on a cast which was left on for six weeks. This resulted in no improvement. There was no history of limitation of motion; of heat; or of redness. He had occasional pain from violent ex-



CASE TWO, H.G.Y., female, age 12. Above X-rays, taken November 21, 1956, when the patient was first seen, show the knees two years after the onset of symptoms. No treatment had been given. These roentgenograms show the typical changes in the left knee. Response to two injections of hydrocortone TBA at weekly intervals gave almost immediate relief that has lasted for over a year. On December 30, 1957, the bony prominence persisted but there was no local pain or tenderness.

ercise or from crossing his knees. Previous history and system review were essentially negative. His father died of scleroderma and maternal grandmother had cancer of the uterus. Physical examination was essentially negative except for the lower extremity on the left where atrophy of the thigh was present as well as considerable tenderness about the tibial tubercle which was 3/8 inch more prominent than on the other side. Procaine and 2 cc of Hydeltra TBA® (Prednisolone tertiary-butylacetate suspension) were injected. On August 30, 1957, he was again injected locally with Procaine and 2 cc of Hydeltra TBA. On September 20, there was no local tenderness. He was on full activity. He had a little "soreness" on violent activity. X-rays taken on January 2, 1958, showed some disturbance in the ossification of the involved tubercle as compared with the other tubercle. Only two times since the treatment had he had transient pain after excessive exercise.

IV. J.C.S., male, age 13, was first seen on November 2, 1957. He complained of intermittent pain and swelling below both knees of eight months duration. There was no history of trauma, local heat or redness. Previous history, family history and general physical examination were essentially negative. Examination of the knees showed a full range of painless motion. Prominence of the tubercle was present as well as slight tenderness at the distal parts of the tubercle. There was thickening of the subcutaneous tissues. The only treatment he had received during the previous eight months was bandaging of the knees and restriction of activity. On November 9, the soft tissues about the tibial tubercles were injected in the pretubercle area with 1% Procaine followed by 3 cc. Hydeltra TBA (Prednisolone tertiary-butylacetate suspension). Increased discomfort was present for 48 hours. Six days later the pretubercle tenderness and swelling were gone. Since that time, he

has been on full activity with no recurrence of signs or symptoms. On January 10, 1958, he reported he had felt slight pain in the left knee for an hour or two after two periods of violent exercise. No tenderness or soft tissue swelling was present, at this time, and no treatment was given.

Discussion

For some time, it has been thought that the bony epiphyseal changes of this disease are only a manifestation of inflammatory or other hyperemic pathology in the surrounding soft tissues and ligamentum patellae. For this reason, the anti-inflammatory agent, hydrocortone, was first used on a case by me in 1954. The more recently developed Hydrocortone TBA (Hydrocortisone tertiary-butylacetate) and Hydeltra TBA (Prednisolone tertiary-butylacetate suspension) with greater potency seem to have a curative effect on the disease and are recommended as the present drugs of choice.

16 East Chestnut Street, Augusta

President John S. Millis of Western Reserve University recently presented a new five-year program leading to the bachelor's and the master's degrees in the basic sciences to more than 350 high school principals, science teachers and vocational counselors.

Dr. Millis said that the purpose of the program was to preserve the liberal arts tradition while giving the student a professional competence in the basic sciences.

"The student who completes this five-year curriculum will be well qualified to enter scientific research or development in industry or government, or to proceed further in graduate study as a candidate for a doctor's degree," stated Dr. Millis.

By integrating a single program in one institution and under one faculty, loss of time and effort is avoided and thus one year can be saved in meeting the educational requirements for a beginning professional status.

Although the plan as presented emphasized mathematics, physics and chemistry, similar programs are possible in other educationals areas.

David Dudley, acting director of the Advanced Placement Program of the College Entrance Examination Board, explained his office's efforts to assist the able student to progress more rapidly through the granting of college credit for advanced high school work.

Palliative Treatment Of Benign Prostatic Hypertrophy

Value of Glycine - Alanine - Glutamic Acid Combination

HENRY M. FEINBLATT, M.D.* AND JULIAN C. GANT, M.D.**

In a controlled clinical investigation of benign prostatic hypertrophy, a course of medication with glycine-alanine-glutamic acid capsules† was found to be effective in reducing the size of the prostate and relieving the associated symptoms of discomfort, nocturia, delayed micturition, frequent urination and urgency. As compared with the controls, the results are statistically significant.

The value of the glycine-alanine-glutamic acid compound for relief of symptoms of benign prostatic hypertrophy was suggested by a chance observation made by one of us (J.C.G.)[1] and an associate.†† A group of allergic patients were being given an amino acid mixture and during the course of treatment one of the patients volunteered the information that all of his urinary symptoms had disappeared. This led to a trial of that particular amino acid compound in non-allergic patients with urinary symptoms. Patients with enlarged prostates and associated urinary symptoms experienced prompt and rather spectacular relief of their symptoms. A number of these patients have been observed over a prolonged period of time. They remain symptom free while taking the medication, but soon after discontinuing it the symptoms of urgency, nocturia, etc., returned. This has been the experience of several physicians who have tried the compound at our suggestion.

These original findings have been confirmed by an independent controlled clinical test.

CONTROLLED CLINICAL TEST

To determine the value of the medication, a series of 40 cases of benign prostatic hypertrophy were treated with glycine-alanine-glutamic acid capsules for a period of three months. As controls, the same patients were given a placebo for a comparable period of two months. Our conclusions were drawn from this comparison.

The series included 40 men with diagnosed benign prostatic hypertrophy. Enlargement of the prostate was determined by rectal palpation. Patients having an indurated nodule located in one prostatic lobe were excluded because of possible malignancy (Jewett[2]). In addition, all subjects were given roentgenographic examination as an additional diagnostic precaution.

All patients were referred or checked by a urologist before assignment to this research program. Our consultations with urologists resulted in a decision in favor of conservative treatment. The conditions were diagnosed as benign and had not progressed at any significant rate of speed. If relief could be secured by non-surgical treatment, no advantage could be obtained by more radical procedures.

The age range was from 37 to 75, average 60. Weight ranged from 101 to 192 lb., average 163 lb. Height ranged from 65 to 73 in., average 68 in. The duration of the complaint ranged from one to six years, average four years.

The condition of the prostate on palpation was a swelling in nine cases, soft swelling in 23 cases, and prominent enlargement (easily felt) in eight cases.

The symptoms were discomfort in 35 cases, nocturia in 39, delayed micturition in 23, excessive frequency of urination in 29, and urgency of urination in 27 cases.

All patients with contributory diseases, as disclosed by the history and physical examination, were excluded from the group.

In the even numbered cases, as they presented themselves, the placebo capsules were substituted for glycine-alanine-glutamic acid capsules. They were given according to the same dosage schedule and the patients were not aware of the fact that they were taking a placebo. This regimen was continued for a period of two months.

The odd numbered cases, as they presented themselves, were given glycine-alanine-glutamic acid, two

*F.A.C.P., Formerly Director of Medicine, Kings County Hospital, Brooklyn, N. Y.

**F.A.C.P., Medical Director, Madison Sanitarium and Hospital, Madison College, Tenn.

†Supplied as Prostall capsules by Metabolic Products Corp. of Boston, Mass. Each capsule contains 6¼ gr. of a mixture of glycine (amino-acetic acid), alanine and glutamic acid. The original formula was modified by addition of glycine by E. Y. Domina, B.A., a chemist, for definite biochemical reasons.

††Raymond J. Savignac, M.D., 810 Slater Bldg., Worcester 8, Mass.

capsules three times daily after meals for two weeks, thereafter one capsule three times daily. This regimen was continued for a period of three months.

Later the placebo cases were switched to glycine-alanine-glutamic acid medication and vice versa. The results form a basis of comparison which gives a reliable indication of the therapeutic value of the medication.

All signs and symptoms were re-evaluated periodically in both groups. Routine chemical and microscopical examination of the urine was performed. Individuals with positive urinary findings were excluded from the group.

Results of Therapy

As shown in the table, the treatment was followed by reduction of prostatic enlargement and relief of the attending symptoms in significant percentages of cases. The size of the prostate was reduced in 92%, to normal size in 33%. Nocturia was relieved in 95% of cases (completely in 72%), urgent urination in 81%, frequency in 73%, discomfort in 71%, and delayed micturition in 70%. No comparable improvement was observed in the controls.

TABLE

COMPARISON OF THERAPEUTIC RESULTS

Glycine-Alanine-Glutamic Acid Capsules vs. Placebo Capsules

	Glycine-Alanine-Glutamic Acid	*Placebo*
Enlargement Reduced	92%	5%
Restored to Normal Size	33%	0
Nocturia Relieved	95%	15%
Nocturia Relieved Completely	72%	5%
Urgent Urination Relieved	81%	11%
Frequency Urination Reduced	73%	15%
Discomfort Relieved	71%	9%
Delayed Micturition Relieved	70%	4%

There were no adverse reactions in any case.

Rationale

During the course of medication we frequently observed disappearance of pitting edema in the legs and various parts of the body. Since the prostate and surrounding pelvic tissues are often congested and edematous in cases of benign prostatic hypertrophy, leading to pressure upon the base of the bladder in the region of the sensitive trigonum vesicae, the swelling leads to characteristic symptoms of bladder irritability which are associated with benign prostatic hypertrophy.

There is reason to believe that the anti-edemic action of glycine, alanine and glutamic acid reduces edematous swelling of the prostate and neighboring pelvic tissues and in this way provides the therapeutic benefits described in this paper.

Edema is one of the most important symptoms of protein deficiency (Youmans[3]) and in such cases dietary protein and amino acids serve a useful function as a diuretic agent (Stare and Thorn[4]).

Glycine, alanine and glutamic acid are three of the dispensable amino acids (Elman[5]). As such they are unit components of food and tissue proteins. We must therefore consider the possibility of a definite metabolic effect in explanation of the results.

Therapeutic properties have been established definitely for certain individual amino acids. Thus methionine has proved to be useful in cases of cirrhosis of the liver (Beams and Endicott[6]), diaper rash (Goldstein[7]), and vitreous opacities (Eggers[8]). Administration of lysine to nutritionally substandard infants produces marked increases in body weight and appetite (Albanese et al.[9,10]). Many other examples of therapeutic effects produced by individual amino acids could be cited.

Glycine has been used with reported benefit in the treatment of various myopathies and peripheral vascular insufficiency (*United States Dispensatory*[11]).

Favorable results with glutamic acid have been reported in the treatment of petit mal and psychomotor epilepsy (Price, Waelsch and Putnam[12]) and of mental deficiency (Zimmerman and Ross;[13] Albert, Hoch and Waelsch[14]). Numerous other therapeutic uses have been published (*United States Dispensatory*[15]).

We believe that ours is the first published report on the value of glycine, alanine and glutamic acid in the treatment of benign prostatic hypertrophy. It is hoped that other physicians will investigate this field of usefulness.

Discussion

Prostatic hypertrophy is part of the normal aging process and is undoubtedly present to a certain extent in all elderly men. After forty-five, more than 50% of all men develop benign prostatic hypertrophy (Hinman[16]). Pathologically, the condition is a benign hyperplasia of the prostatic glandular tissue of an adenofibromatous nature.

Statistics supplied to the authors by the Metropolitan Life Insurance Company[17] report a death rate of 3.9 per 100,000 population from benign prostatic hypertrophy in 1953, 3.8 in 1954, and 3.7 in 1955.

As Chapman[18] has written, prostatic enlargement should be regarded, like arcus senilis and canities, as normal concomitants of old age which occur often enough to be regarded as a variety of the normal. Only when there is obstruction to the flow of urine does the condition become a disease. Usually the growth of the prostate slows down around the age of sixty. Nonprogressive types of the disease should be treated expectantly. Chapman states, and we agree, that it is unjustifiable to remove the prostate merely because it is enlarged and has been associated with some urinary symptoms.

In the great majority of cases of benign prostatic

hypertrophy, there is a large field for medical treatment including the use of glycine-alanine-glutamic acid mixture. Except in emergencies, conservative measures should be given a fair trial before resorting to prostatectomy.

Case Reports

Case 1. J.B., age 57, weight 181 lb., height 72 in., complained of prostatic symptoms dating back five years. He suffered from a feeling of pressure in the perineal region, discomfort on urination, difficulty in starting micturition, nocturia (twice per night), excessive frequency and urgency.

On rectal palpation enlargement of the prostate took the form of a soft swelling. Otherwise there were no physical findings. Roentgenographic examination was negative.

The diagnosis was benign prostatic hypertrophy.

Placebo capsules were administered according to a definite schedule: two capsules three times daily after meals for two weeks, thereafter one capsule three times daily. This regimen was continued for two months. The patient was not told that he was taking a placebo.

At periodic examinations and also at the end of the two months, there was no change in the size or condition of the prostate gland. None of the symptoms were relieved, even partially.

The patient was then switched to glycine-alanine-glutamic acid capsules, two capsules three times daily after meals for two weeks, thereafter one capsule three times daily. This regimen was continued for three months.

With this treatment the symptoms of discomfort, nocturia, difficulty in starting micturition, excessive frequency and urgency were relieved completely. On rectal palpation the size of the prostate gland was reduced to normal.

There were no untoward reactions and the urine was negative throughout both periods of observation.

Case 2. P.W., age 66, weight 152 lb., height 67 in., complained of prostatic symptoms dating back six years. He suffered from difficulty in starting micturition, scanty flow after beginning, discomfort on urination, a feeling of pressure in the perineal region, and nocturia (twice per night).

The prostate was palpated via the rectum and outlined as a soft swelling. Physical and roentgenographic examinations were otherwise negative.

The diagnosis was benign prostatic hypertrophy.

Placebo capsules were administered according to a definite schedule: two capsules three times daily after meals for two weeks, thereafter one capsule three times daily. This regimen was continued for two months. The patient was not informed that he was taking a placebo.

At each regular examination and also at the end of the observation period, no change was found in the size or condition of the prostate gland. None of the symptoms were relieved, even partially.

The patient was then switched to glycine-alanine-glutamic acid capsules, two capsules three times daily after meals for two weeks, thereafter one capsule three times daily. This regimen was continued for three months.

Under the glycine-alanine-glutamic acid treatment, the size of the prostate gland was reduced to normal. All of the symptoms of delayed micturition, scanty flow after starting, discomfort, perineal pressure and nocturia were relieved completely.

No untoward reactions were observed at any time and the urine remained constantly normal.

Conclusions

1. In a series of 40 cases of diagnosed benign prostatic hypertrophy, the use of glycine-alanine-glutamic acid capsules reduced the size of the enlarged prostate in 93% cases, including 33% in which the gland was restored to normal size. With the placebo only 5% showed partial reduction of prostatic enlargement, in no case to normal size.

2. The treatment relieved nocturia in 95% (complete relief in 72%), urgency in 81%, frequency in 73%, discomfort in 71%, and delayed micturition in 70%. With the placebo nocturia was relieved in 15% (complete relief in 5%), urgency in 11%, frequency in 15%, discomfort in 9%, and delayed micturition in 4%.

3. No untoward effects were observed in any case.

4. The modus operandi appears to be an anti-edemic (diuretic) action whereby edematous swelling affecting the prostate gland and surrounding perineal tissues is reduced. A special metabolic activity may be a factor.

5. The great majority of cases of benign prostatic hypertrophy should be treated conservatively and the glycine-alanine-glutamic acid mixture is recommended as an effective palliative.

References

1. Gant, J. C., jt. auth.
2. Jewett, H. J., Significance of the palpable prostatic nodule, *J.A.M.A.* 160:838, 1956.
3. Youmans, J. B., The clinical detection of protein deficiency, *J.A.M.A.* 128:439, 1945.
4. Stare, F. J., and Thorn, G. W., Protein nutrition in problems of medical interest, *J.A.M.A.* 127:1120, 1945.
5. Elman, R., The practical use of amino acids in protein nutrition, *J.A.M.A.* 128:659, 1945.
6. Beams, A. J., and Endicott, E. T., Histologic changes in livers of patients with cirrhosis treated with methionine, *Gastroenterology* 9:718, 1947.
7. Goldstein, L. S., Napkin dermatitis caused by ammoniacal urine; treatment with methionine, *Arch. Pediat.* 66:553, 1949.
8. Eggers, H., Lipotropic substances for absorption of vitreous opacities, *New York J. Med.* 51:2255, 1951.
9. Albanese, A. A. et al., Biochemical and nutritional effects of Lysine-reinforced diets, *Am. J. Clin. Nutrition* 3:121, 1955.
10. Albanese, A. A. et al., Lysine supplementation in infant

Continued on page 124



a new era

in sulfa therapy

ONLY ONE TABLET A DAY

KYNEX*

SULFAMETHOXYPYRIDAZINE (3-SULFANILAMIDO-6-METHOXYPYRIDAZINE) LEDERLE

New authoritative studies prove that KYNEX dosage can be reduced even further than that recommended earlier.[1] Now, clinical evidence has established that a single (0.5 Gm.) tablet maintains therapeutic blood levels extending beyond 24 hours. Still more proof that KYNEX stands alone in sulfa performance—

- Lowest Oral Dose In Sulfa History—0.5 Gm. (1 tablet) daily in the usual patient for maintenance of therapeutic blood levels
- Higher Solubility—effective blood concentrations within an hour or two
- Effective Antibacterial Range—exceptional effectiveness in urinary tract infections
- Convenience—the low dose of 0.5 Gm. (1 tablet) per day offers optimum convenience and acceptance to patients

NEW DOSAGE. The recommended adult dose is 1 Gm. (2 tablets or 4 teaspoonfuls of syrup) the first day, followed by 0.5 Gm. (1 tablet or 2 teaspoonfuls of syrup) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours. Dosage in children, according to weight; i.e., a 40 lb. child should receive ¼ of the adult dosage. It is recommended that these dosages not be exceeded.

TABLETS: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

SYRUP: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

1. Nichols, R. L. and Finland, M.: *J. Clin. Med.* 49:410, 1957.

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

Lederle

*Reg. U. S. Pat. Off.

SPECIAL ARTICLES

Editor's Note: These are summaries of articles from the *Bulletin on Rheumatic Diseases* prepared by George J. Robertson, M.D., 33 College Avenue, Waterville, Maine.

The Metabolic Defect In Gout[1]

The diagnosis of gout is usually made upon two distinct lines of evidence. First, one observes recurrent attacks of arthritis of typical onset and distribution with a characteristic response to colchicine. Secondly, one finds a defect in the metabolism of uric acid which results in an elevation in the level of serum uric acid and a predisposition to deposit salts of uric acid as tophaceous masses in cartilages.

It may be postulated that acute arthritis and uric acid concentration are only indirectly related and that both may result from some yet unrecognized primary defect. The dissociation may be demonstrated by the fact that colchicine which dramatically terminates the acute attack of arthritis is without effect upon the serum uric acid level whereas uricosuric agents such as Benemid® which may cause a fall in the level of uric acid in the blood are of little value in the treatment of acute arthritis.

Recently, reinvestigation of uric acid metabolism in man has been undertaken by the use of isotopically labeled uric acid given by vein to normal human subjects. With this method calculation of the miscible pool or uric acid, which is that quantity of uric acid present in the body in a condition capable of prompt mixing with injected uric acid, is possible. This quantity is of the order of 1 gm. of uric acid in normal man. It is increased in the gouty individual to 2 gm. or more, values as high as 30 gm. having been recorded.

The same experimental approach has yielded the information that between 50 and 75 percent of uric acid contained in the miscible pool is utilized each day in the normal man. This rate constantly exceeds the rate of excretion of uric acid in the urine. This finding in conjunction with the demonstration of isotopic nitrogen in urea and in ammonia of the urine after intravenous injection of labeled uric acid demonstrates the occurrence of uricolysis in normal man. It may be estimated that about 20 percent of uric acid normally produced each day undergoes chemical degradation prior to elimination.

The action of drugs and diets upon uric acid metabolism is also under investigation. On a high-protein diet, normal and gouty individuals excreted a larger fraction of the isotopic nitrogen administered in glycine as uric acid than they did on a diet poor in protein. It would thus appear that a high-protein diet accelerates the incorporation of amino acid nitrogen into uric acid.

Colchicine has been without striking effect upon any phase of uric acid metabolism measured thus far. ACTH, salicylates and Benemid result in a marked diminution in the size of the miscible pool in the gouty subject. This is apparently due to increased clearance of uric acid and subsequent mobilization from the solid phase of miscible uric acid.

The formation of uric acid in normal man appears to be restricted to pathways which commence with the purines of the body. There are, however, other animal forms, birds and reptiles, in which urea formation is precluded by the lack of the necessary enzymes. These species excrete chiefly uric acid in their urines and pathways are presumed to resist whereby uric acid may arise from the dietary amino acids without the necessary intervention of nucleic acid purines. It would appear that in some patients suffering from gout there is a shunt between dietary amino acids and uric acid of the urine, similar to that normally occurring in birds. The metabolic defect in these individuals cannot be more precisely defined at present.

1. Setten, D., Jr., "The Metabolic Defect in Gout," *Bulletin on Rheumatic Diseases,* December, 1952.

Recognition And Management Of Spinal Cord And Nerve Root Compression Caused By Osteophytes[2]

Hypertrophic osteoarthritis of the spine usually arouses little concern. Lately there has been an awareness of the causal relationship between this disorder and a variety of neurological abnormalities often confused with the syndromes of lateral and postero-lateral sclerosis, amyotrophic lateral sclerosis and multiple sclerosis. The neurological abnormalities appear to be a direct result of mechanical constriction of the spinal cord and nerve roots and possibly interference with their blood supply by osteophytes formed at the posterior margins of the vertebral bodies which progressively encroach upon the spinal canal and intervertebral foramina.

The syndrome of foraminal constriction in the cervical spine with nerve root compression is well recognized as a cause of radicular pain in the upper extremities, head, neck and shoulder girdle resulting in a variety of symptoms and signs such as brachial neuralgia, pseudoangina, facial and occipital neuralgias.

The present syndrome is caused by compression of both the cervical nerve roots and the spinal cord. Patients presenting this syndrome are men in the fifth and sixth decades of life. Earliest complaints are referred to the lower extremities where weakness, spasticity and disturbances of coordination are present. There are occasionally preceding symptoms referable to the upper extremities where weakness, stiffness and numbness of the fingers with inability to perform fine movements are encountered. Pain is not a primary disabling symptom. It is usually present and includes burning and uncomfortable "shooting" sensations as well as hypersensitivity of the skin in the distal portions of the upper extremities.

When the upper extremities are affected, neurological examination reveals a lower motor neuron syndrome involving several nerve roots in a bilateral pattern. There is weakness, atrophy and fasciculation in the muscles with a loss of the biceps and/or triceps and occasional preservation or accentuation of the reflexes in the more peripheral portions of the upper limbs. Sensory changes are indistinct. There are poorly defined levels to pin-prick, touch and temperature. Vibratory sensation and position sense are not as conspicuously involved as when the lower extremities are affected.

When the lower limbs are involved, disturbances are due to pressure on the lateral columns and, secondarily, the posterior portions of the cord. This results in frank involvement of the pyramidal tracts with spasticity, weakness and hyperreflexia below the level of the lesion, positive Babinski signs (frequently bilateral) and depression of the superficial abdominal reflexes. The most apparent sensory alterations are the absence of position and vibratory sense in the toes and feet with poorly defined levels.

In a group of six male patients from 30 to 60 years of age, low back pain of progressive and incapacitating severity with radiation down the lower extremities was the presenting complaint. This was associated with weakness. Sensory alterations were present in three of these patients. Examination disclosed weakness and atrophy of the muscles of the lower extremities with fasciculations and loss of deep tendon reflexes. In two of the younger patients a sciatic syndrome was present that suggested a herniated disc. In both these cases, a firm, unyielding laterally situated bony spur proved at operation to have compressed a single nerve root near its foramen of exit. The primary lesion in the other cases consisted of single or multiple ridges that crossed the mid-line severely constricting the spinal canal and its contents.

X-rays should include both lateral and oblique studies. Characteristic findings include a series of constricted intervertebral foramina and a corresponding group of marginal osteophytes protruding posteriorly from the veterbral bodies into the spinal canal. It is significant that the more mobile portions of the spine are involved most severely, namely the lower cervical and the lower lumbar areas. At times, conventional films are inconclusive and myelography with films taken in the lateral and anterior-posterior projections is necessary.

Spinal fluid studies usually disclose no evidence of block on jugular compression although occasionally a partial or complete block can be demonstrated when the cervical spine is fixed in a position of hyperextension. Protein value is normal or slightly elevated.

The differential diagnosis of this syndrome associated with osteoarthritis of the cervical spine includes amyotrophic lateral sclerosis in which there is implication of the cranial nerves and in which there is no pain or sensory change and the deep tendon reflexes are accentuated. It is important to be suspicious of cervical osteophytosis when a single level lesion of the cord is involved. Several patients were suspected of having multiple sclerosis until this critical feature was recognized. Cervical spine films and pantopaque myelography have served to confirm the proper diagnosis.

---

2. Epstein, J. A. and Davidoff, L.M., "Recognition and Management of Spinal Cord and Nerve Root Compression Caused by Osteophytes," *Bulletin on Rheumatic Diseases,* February, 1953.

In subacute combined degeneration the characteristic features include involvement of all four extremities by paresthesias with typical sensory type of spinal ataxia not observed in cervical osteophytosis.

In herniation of a cervical disc signs are usually unilateral and pain is an outstanding symptom.

It may be difficult to distinguish symptoms caused by osteophytosis of the lumbar spine from those caused by a tumor in this region. The preservation of function of the sphincters with sparing of the saddle area tends to exclude the diagnosis of neoplasm of the cauda equina. Severe pain may occur in both.

The course of the disease is progressive and there is increasing disability. Prior to the development of long tract signs, conservative treatment may be employed to advantage including traction, radiotherapy and vocational rehabilitation. When however the course is unremitting and disability progressive with frank involvement of spinal cord function it is necessary to consider operative measures.

The Clinical Course Of Juvenile Rheumatoid Arthritis[3]

Juvenile rheumatoid arthritis is rheumatoid arthritis having its onset at the age of twelve or before — that is, prior to puberty. It is basically the same disease as the adult form but there are enough distinguishing features to warrant its separate consideration as a subgroup.

The incidence of recognized rheumatoid arthritis in children is about four per cent of all cases of rheumatoid arthritis. The sex distribution is slightly over two females to one male.

The cause is unknown. One however is impressed with the incidence of forty-five per cent of preceding respiratory infection. It is not unusual for the antistreptolysin titer to be significantly elevated.

The peak ages of onset are three and between eight and eleven. The onset varies greatly from a more common insidious form to a fulminating type.

In the insidious form there is fatigue, loss of appetite and weight, low-grade fever, general malaise, pain and stiffness in one or more joints. Occasionally only one joint may be involved. More commonly there is progressive involvement of other joints with swelling, pain, stiffness, and disability. Marked muscle wasting and flexion deformities are not long in appearing. Lymphadenopathy, hepatomegaly, and splenomegaly are present in varying degree. The dorsal, lumbar spine and sacroiliacs are extremely rarely involved in the juvenile disease. There is, however, a common specific involvement of the cervical spine.

The acute, explosive type of illness which conforms to the "Still's" pattern is less common. These children usually have an abrupt onset of polyarthritis with high spiking fever, marked leucocytosis, increased sedimentation rate, generalized adenopathy, evidence of polyserositis with pleurisy and occasionally peritonitis or pericarditis. Splenomegaly is common and occasionally hepatomegaly. Anemia is always present and it may be severe. The acute phase of the severe illness may persist for weeks or months, subsiding eventually to a milder form of activity — rarely into complete remission. There may be recurrent bouts of the severe episodes, repeating a similar pattern each time.

The most common incorrect diagnosis is rheumatic fever. It may be impossible to reach a correct diagnosis in the early stages of a migrating polyarthritis. In many instances the correct diagnosis becomes possible only after prolonged observation. Tuberculosis must always be ruled out in monarticular arthritis.

It has been thought until recently that this is a self-limited illness, rarely remaining active more than seven years, and definitely limited by puberty. Neither of these impressions is correct. Persistent activity has been noted for eighteen years. Because of the involvement of the epiphyses by the rheumatoid process, there is usually some interference with growth, of one or more bones. Thus we see short, stubby fingers, a receding jaw, shortened arms or legs and the appearance of dwarfism.

In Barkin's study, 16 of 51 patients showed heart involvement at some time during their course. Amyloid disease is more common in juvenile than in adult rheumatoid arthritis.

X-ray findings are similar to the findings in the adult form with one exception peculiar to the juvenile form which is fusion of two or more cervical vertebrae.

The incidence of severe types reported by various authors varies from five to twenty-five per cent. In one series of 51 cases followed for periods ranging from a few to forty years, there were eleven deaths. Thus the prognosis for life of the more severe type of disease is not poor, but the prognosis for function is decidedly

3. Barkin, R. E., "The Clinical Course of Juvenile Rheumatoid Arthritis," *Bulletin on Rheumatic Diseases,* September, 1952.

poor. Two-thirds of the severe patients are moderately and severely handicapped. This is in contrast to forty per cent of the group with the less severe type.

Mortality is rather high in one series of 51 patients. Eleven died at a relatively young age. The causes of death are reported as pneumonia, pulmonary tuberculosis, amyloid disease, rheumatic heart disease and aortic valvulitis and congestive failure.

Primary Generalized Osteoarthritis[4]

Primary generalized osteoarthritis is mainly a disease of middle-aged women. The ratio of female to male patients is 10:1 and the mean age of onset is 52 years. In the typical case, each affected joint passes through a more or less acute painful phase which is followed by gross bony enlargement and reduction of pain so that fair joint function is finally retained in spite of severe anatomical changes. Serious crippling is, therefore, rare. The joints tend to be serially affected and the evolution of the disease process in any given joint is largely unrelated to trauma or mechanical factors, the final pattern of joint involvement being remarkably uniform and one of the characteristic features of this disorder.

In the hands the terminal interphalangeal joints and the first carpometacarpal joints are maximally affected. Thus the pattern of joint involvement in the hands is the exact opposite of that found in rheumatoid arthritis. The changes in the feet are very much less than in the hands. After the hands the spine is most commonly affected and the changes are largely confined to the interfacetal joints which show enormous bony enlargement, particularly in the lumbar region. The knees are commonly affected and in severe cases the hips and elbows. In the shoulder region the acromioclavicular joint is mainly affected.

During the acute phase there is much spontaneous pain, worse in the evening and at night, aggravated by use of the part and by cooling and relieved by rest and warmth. These spontaneous pains are poorly localized being felt widely in the limbs and trunk and are therefore often attributed to "neuritis." In severe cases small cystic swellings may form over the terminal finger joints finally bursting to discharge a little glary gelatinous material. In such cases severe burning and bursting pains may be added to the diffuse deep pain. As the joints tend to be serially affected the patient usually complains of only a few joints at the time of examination but in advanced cases there is a past history of painful episodes lasting six to eighteen months affecting various finger joints, the base of both thumbs, the low back, one or both knees, and so on, and routine clinical and x-ray examination reveals typical bony enlargement in the joints that were affected.

In the acute phase the joints are exquisitely tender, a little warm and reddened, and there may be small effusion in larger joints. In the later stages there is simply bony enlargement with little limitation of motion.

The general health remains unaffected, and there is no weight loss. The blood count is normal and the sedimentation rate is usually low.

The radiological changes in advanced cases are striking so that x-ray is an invaluable aid to diagnosis. The changes consist essentially of bony proliferation. There are great bony outgrowths around the articular margins and in the joint capsules but the shape of the joint surfaces is generally preserved and the bony texture remains normal.

Difficulty may arise in distinguishing this disorder from other conditions in which there is bony enlargement. The most common of these is multiple osteoarthritis, secondary to previous rheumatoid disease. The past history and the pattern of joint involvement and other stigmata of previous rheumatoid disease serve to distinguish these cases.

Since crippling rarely occurs the patient may be assured that pain will diminish and function be restored in the affected joints as bony enlargement becomes established. Pain seems to be relatively unaffected by salicylates, Butazolidin®, or adreno-cortical hormones but is rapidly relieved by rest and splinting. Local warmth is also helpful. Massage and exercise may aggravate the symptoms.

This probably represents a severe form of Stecher's idiopathic Heberden's nodes, and may therefore result from an inherited defect. The clinical separation of this condition from rheumatoid arthritis and classical monarticular osteoarthritis seems desirable since it may have a separate and distinct pathogenesis and because such a separation seems to be helpful in the practical management of patients.

4. Kellgren, J. H., "Primary Generalized Osteoarthritis," *Bulletin on Rheumatic Diseases,* January, 1954.

Osteoarthritis And Its Management[5]

Generalized osteoarthritis, as distinct from monarticular osteoarthritis, is probably the most common disorder of joints, its presence being demonstrable in almost all people beyond twenty years of age. The basic pathological change in osteoarthritis is fibrillation and disintegration of cartilage followed by deep erosions. As a result of complete loss of protective cartilage, the bone reacts by the production of excrescences at the joint margins. This process of cartilage degeneration is universal throughout the body but more accelerated at the areas of increased stress. The main symptoms of osteoarthritis are pain and disability. Since cartilage and adjacent bone are not supplied with sensory nerve fibres, it is obvious that the pain is mediated through the extra-articular soft tissues. The physical findings include tenderness about and at a distance from the involved joint plus varying degrees of stiffness and limitation of motion. Joint deformities occur mainly as a result of the hypertrophic spurs and therefore are hard and bony with very little soft tissue reaction. The degree of complaint of any particular patient seems to have no relationship to the X-ray or physical findings. The deciding factor appears to be the degree of trauma that has been or is being applied to any particular joint. Osteoarthritis is an incurable disease in the sense that the basic damage, which is cartilage erosion, is poorly repaired, if at all, and the bony spurs cannot be removed in any other way except surgically. Treatment therefore is basically a medical-orthopedic problem, the main objective of which is to reduce trauma.

The first principal in the management is to make a thorough survey of the patient's physical and emotional health. Any medical disorder should be corrected. Emotional unrest and neuromuscular tension that follows these anxieties is a factor too often overlooked.

The joints which are the site of the pain should be given rest — some to the point of bandaging, splinting, bracing, or application of casts to obtain complete rest of a part.

Thirdly, improvement of body mechanics is essential. Special attention must be paid to the feet because it has been shown that mechanical and functional derangements of the feet transmit undue stresses upward, producing damaging effects on the metatarsal joints, ankles, knees, hips, lumbar spine, dorsal spine and even the lower cervical spine. Prescriptions for proper shoes and additional foot supports, such as metatarsal leather bars, arch supports, and at times physical therapy, and corrective exercises are needed. This improvement in foot mechanics is often the deciding factor in the relief of pain due to osteoarthritis. Obesity is a common body mechanical derangement causing stress on the weight-bearing joints. Weight reduction is advisable but this is secondary in importance to the correction of bodily mechanical derangements.

Where structural derangements are marked, such as bowing of the legs, knock knees, malunited fractures and so forth, operative correction of these derangements may be necessary.

There is no medical treatment of consequence for osteoarthritis except for the simple analgesics.

It is poor practice to administer ACTH and Cortisone and the newer steroids to patients with osteoarthritis. Nothing of permanent nature is gained. An exception might be made in the case of malum coxae senilis where no medical treatment appears to be effective and where the patient cannot or refuses to undergo surgical treatment.

Varicose veins and other venus disturbances are commonly observed and their correction often helps in the rehabilitation of the patients.

Physical therapy is probably more effective in osteoarthritis than in any other form of rheumatic condition. These patients do particularly well with hydrotherapy and massage. Most important of all, however, is corrective exercise to stretch the shortened fibrous tissue structures and to correct limitation of motion.

The injection of procaine into areas of tenderness is helpful as a form of palliative treatment. Good results are at times permanent when such treatment permits a full range of manipulation while the analgesic is effective.

5. Hartung, E. F., "Osteoarthritis and Its Management," *Bulletin on Rheumatic Diseases,* March, 1951.

INTERIM MEETING — M.M.A. HOUSE OF DELEGATES

Sunday, March 30, 1958

at Brunswick, Maine

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D. Togus
Second District, WALDO A. CLAPP, M.D. Lewiston
Third District, RALPH P. EARLE, M.D. Vinalhaven
Fourth District, JAMES E. POULIN, M.D. Waterville
Fifth District, MARCUS A. TORREY, M.D. Ellsworth
Sixth District, RICHARD C. WADSWORTH, M.D. Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville
PEARL R. FISHER, R.N., Waterville

Across The Desk

More Hospital Building Asked to Curb Recession

Representative John E. Fogarty (D., RI) wrote a letter to President Eisenhower asking him to increase Federal grants for hospital construction nearly 200 per cent as an anti-recession move. This would have a more rapid impact on the economy than most of the other types of construction, said Rep. Fogarty, and existing Hill-Burton machinery in the states is assurance that the program could be started swiftly. He urged the White House to request a $210 million Hill-Burton appropriation for coming fiscal year, rather than the $75 million now budgeted.

In contrast, Ike had said in his budget message, "In view of the progress already made toward meeting community hospital requirements for general beds, the Federal program should be modified to meet only the most urgent needs, with emphasis on specialized needs."

This is a shrewd move by the New Englander, who heads the subcommittee which is now working on Department of Health, Education and Welfare budget for 1958-59 and whose House leadership on national health legislation is unquestioned. If President Eisenhower accedes, Rep. Fogarty can rightfully take the credit. If the White House responds negatively, he can — and probably will — put over a substantial increase for Hill-Burton grants with confidence that the Senate will concur, or even better it.

Both branches of Congress are receiving communications daily calling for continuation of this state-Federal hospital construction plan and provision of increased funds.

The Fogarty letter observes that in the next fiscal year alone, the states could use more than $500 million in Hill-Burton grant moneys if it were available. This is based on their planning reports filed with PHS. The Congressman named eleven hospitals and convalescent homes in his own state which could qualify for $25,000 to $850,000 in Federal assistance, for a total of $2,686,000.

"An increase in the budget estimate for fiscal year 1959 to the full grants authorization of $210 million," said Fogarty, "would (a) help bolster a sagging economy and (b) would for the first time in many years give the states an opportunity to make some impact in the backlog of need for community health facilities. Both of these objectives would relieve a great deal of human suffering."

Hoover-Sired Federal Medical Reforms Shown

Senate Committee on Government Operations has drawn up a tally sheet on administrative reforms recommended by Hoover Commission in the first Eisenhower Administration. Of 519 recommendations, 61 percent have been accepted to date and 53 percent of them have actually been implemented. Thirty-six of the 519 relate to Federal medical services, and, in this specialized area, the ratings are 67 percent accepted and 42 percent under implementation.

Health Council Rejected

Nothing has been done about the Commission's most important proposal, to wit, that President Eisenhower

should set up a Federal Advisory Council of Health and give it considerable authority. This is one of twelve recommendations still unacted upon. Six of the twelve deal with services to veterans and perhaps the most controversial is the one calling for provision of free outpatient care to ex-servicemen who are medically indigent.

Similarly rejected by the Administration, in actuality if not in name, are recommendations to abolish merchant seamen's medical benefits, close Public Health Service hospitals and reconsider question of Federal grants to states for health purposes, among others.

Recommendations Adopted

The more important Hoover Commission recommendations adopted and put into effect thus far include the following: Closer integration of Army, Navy and Air Force hospital facilities; codification of laws relating to medical care and other veteran benefits; military dependents' health services (Medicare).

Social Security

A bill introduced by Rep. Roosevelt (D., Calif.) would increase the wage base on which social security taxes are collected from the present first $4,200 of income to the first $10,000. Also, the limit would go up $500 each year that the Consumer Price Index rises five points, and remain at the higher level as long as any part of the index gain is retained. The monthly social security benefits also would be increased under a new formula. Under this bill a self-employed individual with an income of $10,000 would pay at least $637.50 in social security taxes alone. The number is *H. R. 9834*. . . . Mr. Roosevelt, in *H. R. 9835,* would make social security coverage compulsory for all physicians. . . . Another Roosevelt bill (*H. R. 9836*) would liberalize requirements for disability benefits both under the social security disability payments program and the disability "freeze" by a less strict definition of time the recipient has spent in covered occupations. It would make another important change by specifying that an applicant would be eligible for benefits if unable to obtain employment in an occupation *similar* to the work he formerly engaged in; under present law the benefit is allowed only if the applicant is physically unfit for *any* substantial gainful employment. Furthermore, a statement from a governmental agency that the applicant qualifies as disabled under its regulations would be sufficient evidence of disability under the social security program.

PHS Stresses Under-5 Poliomyelitis Shots

Dr. Leroy E. Burney, Surgeon General of Public Health Service, is renewing efforts to impress physicians and public alike with importance of having children under age 5 vaccinated against poliomyelitis long before the 1958 case curve begins rising. He has begun disseminating statistical data among professional societies presenting new evidence that the paralytic attack rates are highest among preschool children.

In January-October, 1957, the highest rate — 5.7 per 100,000 — was in children aged from 12 to 23 months. It was next highest among 2-year olds — 5.5 per 100,000.

New Plastic Blood Pack Unit Is Saver of Space

Armed services have gone into production with a standardized *plastic* blood pack unit which is markedly superior to glass from the standpoint of bulk and weight. A twin improvement is the newly developed disposable blood refrigerant shipping container which is lighter than carton used previously and which makes returns of "empties" unnecessary. It is virtually certain that the plastic transfusion unit will take place of glass equipment as far as the military is concerned.

Sterilize the OR with Gas!

Discovery of a new bactericidal gas by a team of Chemical Corps scientists was announced by C. R. Phillips, Ph.D., chief, physical defense division, U.S. Army Chemical Corps, Fort Detrick, Maryland.

The new gas is beta-propiolactone — a compound which had been used previously for sterilization only in aqueous solution. As a gas it acts as effectively as formaldehyde vapor but works more rapidly and with fewer adverse side effects.

Dr. Phillips predicted that a few years study will prove the gas to have "important applications" with possible use "in sterilizing operating rooms, nurseries within hospitals, and the like."

Dr. Phillips announced this new use of beta-propiolactone in a paper on "Gaseous Sterilization" delivered at Seton Hall College of Medicine and Dentistry as part of the Becton, Dickinson Lectures — a series on sterilization techniques sponsored by the medical supply firm and the college.

Smoke-and-Stay-Healthy Tune Decried in Capitol

High pressure cigarette advertising elicits strong censure of House Government Operations Committee in a report adopted recently. It is based on hearings conducted by a subcommittee last July into actions and claims employed in marketing filter-tip cigarettes. Much of the expert testimony was presented by physicians and it is skillfully summarized. The committee, while not taking sides on carcinogen question, accuses the industry of doing a grave disservice by publicizing filter-tip smoking as safe when this is unsupported by fact.

The congressional group goes further, criticizing Federal Trade Commission for doing too little too late to

prevent false and misleading advertising. Upon request, Washington Report on the Medical Sciences will supply single copies of the report.

To be published later by same House committee is a similar report on objectionable practices in marketing drugs for weight-reducing. Findings will be based on hearings held last summer by same subcommittee, chaired by Rep. John A. Blatnik (D., Minn.).

Strong Bid Made on Hill for Jenkins-Keogh Bill

The professions made a convincing case for tax-deferred pension privileges for the self-employed at Congressional hearings. Enactment of Jenkins-Keogh bill (HR 9-10) was urged not only on basis of equity and fairness but as a career incentive that would encourage more young people to enter vocations of science and engineering. The latter point was stressed particularly by American Dental Association and by National Society of Professional Engineers. Their testimony came from Dr. Floyd Pillars, Des Moines and Robert C. Vogt, Cincinnati.

Vogt also was one of four witnesses representing American Thrift Assembly, whose testimony supported the bill in behalf of a score of more professional, business and trade associations. Separate statements were filed with House Ways & Means Committee by American Medical Association, American Osteopathic Association and American Veterinary Medical Association.

"Health For Peace" Funds Demanded by Senator Hill

Senator Lister Hill (D., Ala.) took the floor recently to deliver a ringing appeal for more funds to fight cancer and heart diseases. Taking an international pitch, he called for a "health for peace" crusade in five parts: (1) Increased appropriations for heart and cancer research; (2) expanded participation in disease control projects on a global basis; (3) increased official participating in international meetings on medical subjects; (4) exchange visits of American and Soviet experts in heart disease and cancer; (5) creation of a world clearinghouse on medical research in every category.

Tax Ruling Reversed on Autoettes for Disabled

In 1955, Internal Revenue Service ruled that the cost of a three-wheeled "autoette" was not a deductible item of medical expense even when it was used by a physically disabled person. This decision has now been reversed by IRS, which henceforth will recognize wheel chairs — of both the manually operated and self-propelled types — as well as autoettes as medical equipment. This is conditional upon the person using it "primarily for the alleviation of his sickness or disability and not merely to provide transportation between his residence and place of employment."

Costs of Medical Care Maintain Record Levels

Latest consumer price index of Dept. of Labor shows continued rise in "medical care" (this includes hospital rates and insurance, drugs and eyeglasses, as well as professional medical and dental services). December index was 140.8, compared with 140.3 a month earlier (1947-49 = 100). Consumer prices for all items combined showed no change.

Eyes on UMWA Doctor's Row with County Society

Several desks in the capital are interested in the outcome of Dr. Frederick P. Zuspan's persevering effort to gain membership in Floyd County (Ky.) Medical Society. John L. Lewis's Miners Memorial Hospital Association, by whom Dr. Zuspan is employed, is deeply involved although it is not actually a party in the case. Dept. of Justice is not indifferent to a situation which has elements of the famous AMA-Group Health Association case of 1941. Public Health Service officials are following developments. So are Labor Dept. specialists in medical economics.

May Appeal To Courts

Dr. Zuspan is a salaried obstetrician on staff of mine union's McDowell (Ky.) Memorial Hospital. He was denied membership in Floyd County Medical Society and has appealed this action to Kentucky State Medical Association. Refusal to approve his application constitutes a professional handicap and could delay or jeopardize his chances of obtaining board certification in his specialty, Dr. Zuspan states in his petition to KSMA. "I do not want this matter to reach the courts," he says, but intimates he will have no other recourse if his application for membership stays on the rejected spike.

"With or without an excuse," says his brief, "the disciplinary action is designed to limit selection of physician to the free choice method and to limit compensation to fee for service. As such it is not more than an economic weapon used to eliminate competition to the traditional mode of practice, in violation of the law against restraints and clearly outside the proper function of a medical society."

Wider Use of Clinical Center by MD's Indicated

Probably thousands of American physicians are unaware of the existence of the Clinical Center of National Institutes of Health. This is the most plausible explanation of the fact that so few of them beyond a 100-mile radius of Washington refer patients to this unique institution situation on the periphery of the Capital City.

In 1956, there were 2,095 discharges from the Center. (This is a small number for a 500-bed hospital, but in this facility, the average length of patient stay is 40 days). Of that total, 1,399 patients came from

Washington and the neighboring states of Maryland and Virginia.

From all of New England there were only 18 patients, despite the fact that its most remote spot from Washingon is only an over-night train ride. Thickly populated Midwestern states of Illinois, Michigan, Ohio, Indiana and Wisconsin accounted for *less than 100 combined.*

Doctors in Montana, Utah, New Mexico, Maine and Rhode Island did not refer a single patient to the Clinical Center. All of Texas produced only nine and California but eleven.

This extraordinary Federal institution has just published an up-to-date guide to current clinical studies and procedures for referral of patients. Upon request to Clinical Center, NIH, Bethesda 14, Md., copies of booklet may be obtained by individual physicians, as well as hospitals, clinics, medical schools and medical societies.

Institute by institute — heart, cancer, mental and the rest — the publication describes studies currently under way and for which additional patients may be required. To mention but a few: Surgical and chemotherapeutic investigations of cancer; more than a dozen approaches in cardiology; explorations of infectious hepatitis, aseptic meningitis, leptospirosis and other infections; all forms of psychotherapy; experimental treatment of metabolic diseases; glaucoma and virus infections of the conjunctiva and cornea.

Among them all, the studies utilize persons of all ages from infancy onward. Some are used for short periods but the majority for protracted stays in the large ultra-modern Clinical Center. No charge is made to patients admitted for study and treatment.

Physicians who may wish to arrange for a patient's admission should prepare a brief summary of medical history and current situation and mail to Director, Clinical Center. Telephone calls are to be directed to Oliver 4-6000, extension 746.

Sometimes, but not always, the Clinical Center calls for an interview and examination of the prospective patient. Its social service department assists in handling of personal problems incidental to hospitalization in this facility away from home.

For further information on policies and procedures, physicians should write for a copy of "Current Clinical Studies and Patient Referral Procedures."

Report Of Delegate To The Maine Multidisciplinary Health Study Group

This is a brief report as delegate from the Maine Medical Association to the Maine Multidisciplinary Health Study Group, which held its most recent meeting in Augusta on January 21.

At a prior meeting, I was appointed Chairman of a Committee to study the possibilities of working out a program for the so-called inactive nurse. This committee consisted of Mr. George T. Nilson of the Bingham Associates Fund and Miss Eleanore Irish, R.N. of Portland. It was decided to set up review courses in community hospitals for all graduate nurses in the area. As a pilot effort, we have arranged such a course in the Biddeford-Saco area and will use the Webber Hospital. If this works out well the same plan can be carried out in other communities.

We were fortunate to obtain Miss Phyllis T. Caswell, R.N., Field Representative for the Bingham Associates, to arrange and carry out this program of two-hour courses, which will start April 1 and continue every Tuesday night for six consecutive weeks. This probably will be followed by an in-service practical course for those nurses who have not practiced their profession for some years. Final arrangements for these courses are now nearing completion.

This service will be paid up to 50% of cost by the State Department of Education through the local school system as an extension course. Some funds may be received from the Special Services, which would make it possible to finance courses in other areas.

Mr. Edmund P. Wells, Executive Director of the Maine Tuberculosis Association, was appointed Treasurer of the Multidisciplinary Group. Each of the three mainly interested associations, the Maine Medical Association, Maine Hospital Association and Maine Nurses Association, have been asked to contribute $50.00. This is to help with general expenses of the Study Group and not for the aforementioned courses.

There are other problems which the Group plan to take up and it would seem to me that it would be well to coordinate the work of all of these associations instead of taking independent action as has been done in the past.

PAUL S. HILL, JR., M.D.



The Council and House of Delegates

The Council

Two meetings of the Council of the Maine Medical Association have been held since my last "Notebook" report; one in Brunswick on December 8, 1957 and the other in Portland on February 9, 1958.

At the December meeting the following appointments were made by Francis A. Winchenbach, M.D., President of M.M.A., and approved by the Council:

Delegate to the Health Council of Maine — Brinton T. Darlington, M.D., of Augusta. Alternate — Edward W. Colby, M.D., of Portland.

Delegate to the Nurses Aide Teacher Trainer Program — John D. Denison, M.D., of Gardiner.

The Health Insurance plan for members of the Maine Medical Association and their families was discussed. This plan was approved at the June, 1957 meeting of the House of Delegates and on August 16, 1957 a letter containing complete information concerning the plan was sent to each member of the Association. Because of the lack of response to this letter, Dr. Hanley was instructed to write to each county secretary relative to the plan. Consequently, on December 16, 1957, a letter was sent to each county secretary as well as to each member who had not made application for the plan. The plan is now in effect for all members whose applications were received by January 15.

Philip P. Thompson, Jr., M.D., of Portland, Delegate to the American Medical Association, presented a report of A.M.A. meetings held in Philadelphia in December, 1957. This report will be found in the February, 1958 issue of the Journal, page 67.

Proposed revisions to the Constitution and By-Laws of the Maine Medical Association, as drawn up by Dr. Hanley and Mrs. Kennard, in accordance with Council instruction, were presented to members of the Council; these to be studied in preparation for discussion at the February meeting.

The meeting in February was held at the Mercy Hospital in Portland. This was a lengthy meeting with the major portion of the time spent on a chapter by chapter discussion of the Constitution and By-Laws; present and proposed. Copy of this material is now being prepared for presentation at the interim meeting of the House of Delegates.

Philip P. Thompson, Jr., M.D., and Robert L. Allen, M.D., were appointed to serve as a Budget Committee to make a study of the Financial Statement for 1957-1958 and to draw up a budget for 1958-1959. Their report will be presented to the Council at a meeting on March 30, preceding the interim meeting of the House of Delegates.

Interim Meeting of the House of Delegates

The interim meeting of the House of Delegates of the Maine Medical Association will be held at the Harriet Beecher Stowe House in Brunswick on Sunday, March 30. Luncheon at 1:00 P.M. will be followed by the business meeting at 2:00 o'clock.

The primary purpose of this meeting of the House of Delegates is to discuss matters which are to be presented for action at the annual meeting in June. Thus each county society has ample time to discuss these matters prior to action by the House.

Included on the Order of Business will be the Financial Statement for 1957-1958 (which by necessity will be based on actual figures for nine months plus estimated figures for the remaining three months) and the Budget for 1958-1959 as proposed by the Council.

The proposed revisions to the Constitution and By-Laws will also be discussed.

Results of the poll of members of the Maine Medical Association relative to Social Security for Physicians, which was authorized at the meeting of the House of Delegates in June, 1957 will be presented. (See page 90 for partial results.)

Each County Society will have an opportunity to present any problem or problems which they feel should come before the House of Delegates — and each committee chairman will be invited to make an interim report.

Order of Business for this meeting will be sent to each delegate and alternate prior to the meeting — and copy sent to each county secretary.



ANSWERING QUESTIONS

Is Blue Shield A "Third Party"?

"Blue Shield Plans exist only to help the medical profession facilitate the provision of its services to the people. . . . Blue Shield is an organization of the profession itself, and not a third party between doctor and patient."

So declared the Blue Shield Commission in a recent policy statement. The Commission is the elected board of directors of the national association, "Blue Shield Medical Care Plans," whose members are the 70-odd medical society-sponsored, non-profit Blue Shield Plans. A preponderant majority of the Commissioners are doctors of medicine.

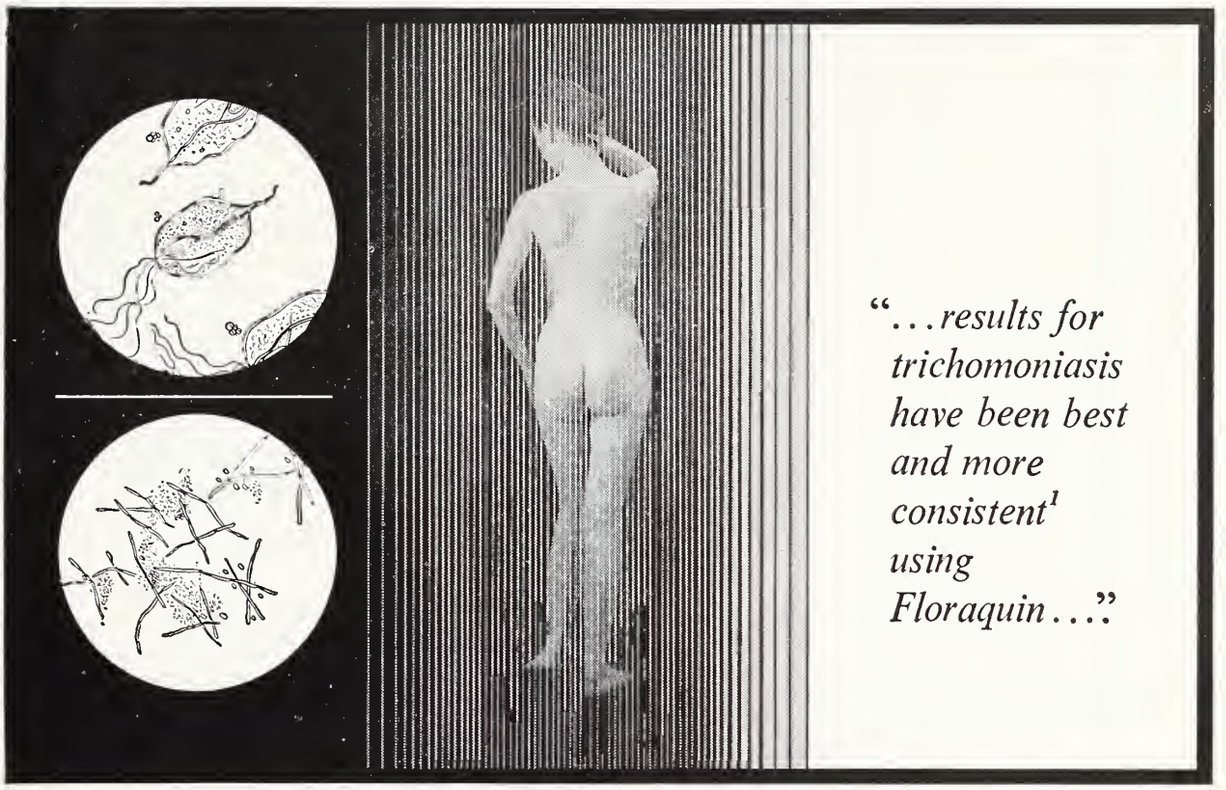
The medical profession, through its own instrument, Blue Shield, pioneered the great uncharted realm of medical prepayment at a time when commercial insurance companies declared it was actuarially impossible, and when the bureaucrats in Washington asserted that only big government could do the job.

What is a "third party between doctor and patient"? In simplest terms, a "third party" must be some person or agency over whom neither the first party — the patient — nor the second party — the doctor — has any direct control; someone independent of both doctor and patient.

The first requirement of a medical prepayment plan that wants to call itself Blue Shield is that it be approved by the county or state society in the area that it serves. The second requirement is that all medical policies and operations be under medical control; and the third, that it earn the voluntary participation of at least a majority of the doctors in its territory.

Blue Shield is not a "third party." In truth, Blue Shield has proved that doctors and patients, working together, can solve the problems of medical economics without needing any third party to come between them.

EFFECTIVE, DEPENDABLE THERAPY FOR VAGINITIS



Floraquin® eliminates trichomonal and mycotic infection; restores normal vaginal acidity

Leukorrhea is by far the most frequent symptom of vaginitis; trichomonads and monilia are the most common causes. Many authors have reported[2] trichomonal protozoa in the vagina of 25 per cent of obstetric and gynecologic patients. Increased use of broad spectrum antibiotics has resulted in a sharp rise in the incidence of monilial infections.

Floraquin effectively eradicates both trichomonal and monilial vaginal infections through the action of its Diodoquin® content. Floraquin also furnishes boric acid and sugar to restore the normal vaginal acidity which inhibits pathogens and favors the growth of protective Döderlein bacilli.

Pitt[1] recommends vaginal insufflation of Floraquin powder daily for three to five days, followed by acid douches and the daily insertion of Floraquin vaginal tablets throughout one or two menstrual cycles. G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

1. Pitt, M. B.: Leukorrhea. Causes and Management, J. M. A. Alabama *25*:182 (Feb.) 1956.
2. Parker, R. T.; Jones, C. P., and Thomas, W. L.: Pruritus Vulvae, North Carolina M. J. *16*:570 (Dec.) 1955.

SEARLE

Tuberculosis Abstract

The knowledge obtained from tuberculin tests is of value to the community and to the health department in comparing the local rate of infection with that in other areas of the country. Uniform testing of school children is valuable to the health department in focalizing the problem in certain sections of the community, in certain racial groups, and in special geographic regions. While it is desirable to test persons of all ages, this presents certain difficulties and the uniform testing of school children with a uniform dosage of tuberculin appears to provide a satisfactory means of comparing tuberculin sensitivity in various areas.

Michael L. Furcolow, M.D.

Am. J. Pub. Health, September, 1956

The Maine Trudeau Society, Medical Section, Maine Tuberculosis Association



DOCTORS NEED REMINDERS TOO

make a note to send for your
polio reminder cards *today.*

Remember—every unvaccinated person under 40 should receive one of these reminder cards from his doctor.

Just fill in the coupon and mail it to

Public Relations Department
American Medical Association
535 N. Dearborn Street
Chicago 10, Illinois

please send me

_____ copies of the **A** Salk series reminder cards.
indicate quantity

_____ copies of the **B** Third shot reminder cards.
indicate quantity

NAME_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

The Importance Of Good Nutrition During Pregnancy

DOROTHY WOODCOCK, Nutrition Consultant
and
JOYCE MITCHELL, Nutritionist

Good nutrition throughout life is a valuable asset. Particularly emphasis should be placed upon the need for proper nutrition during periods of stress which occur at various times throughout life. In view of the present trend toward early marriages, the nutritional status of teen-age girls is of great concern. Two periods of stress overlap when the pregnant woman is a teen-ager. Due to the fact that a woman is not immediately aware of her pregnancy, it is wise for women in the child-bearing age to be in good nutritional status at all times. This would assure the mother and infant of being adequately nourished at the very beginning of pregnancy. Unfortunately, there are many women who go into pregnancy in poor nutritional status. When this happens, the diet should be corrected as soon as pregnancy is evident. The first months of pregnancy are the most important and have the greatest effect upon the embryo. Although, in some cases, pregnancy may be well along before nutritional improvement starts, the improvement will not be a complete loss.

Due to pre-natal studies done over a period of time, much has been found regarding the effects of nutrition upon mother and fetus. Evidence indicates that good nutrition during pregnancy has several good effects for the mother. Studies done at Harvard University show fewer complications, safer delivery, lowered maternal mortality, better health following delivery, a greater possibility of the mother being able to nurse her infant, and greater possibility of her milk being of good quality when the mother is in good nutrition. Infant mortality was found to be less in children of such mothers. The incidence of premature birth has been found to be higher when the mother's nutrition is poor. Birth weight has been found to be less among children of poorly nourished mothers. "The average birth weight of infants born to mothers in the 'excellent or good' diet group was 8 pounds, 8 ounces; in the 'fair' diet group, 7 pounds 7 ounces; in the 'poor to very poor' diet group, 5 pounds, 13 ounces." Much evidence points toward the relationship of abnormalities in the new-born and poor nutrition in mothers.

In the Harvard studies toxemia was found to increase with increased inadequacy in diet. No cases of toxemia were found among mothers of good or excellent nutrition. Other evidence has been presented to indicate that faulty nutrition plays an important part in toxemia. "It is generally agreed that a well-balanced high-protein diet and restriction of weight gain are important preventive measures."

Research done by Dr. Josef Warkany of Children's Hospital Research Foundation, Cincinnati, Ohio, has shown that poor diets in animals cause certain congenital malformations among new born. It is not yet known to what extent these findings can be applied to human beings. The first three months are formative for the embryo. The food eaten at this time is particularly important and the diet should be adequate in body building foods. Milk contributes calcium, phosphorus and protein, needed for growth, building of strong bones and teeth. One quart of milk daily supplies the amount of calcium needed. Vitamin A requirement may be met by the frequent inclusion of deep yellow or dark green leafy vegetables in the diet. Additional vitamin A may be obtained from milk, butter or margarine, egg and liver. The intake of two servings of citrus fruit, raw cabbage or potato cooked in the skins supplies adequate ascorbic acid. Protein important for the building of body tissues and

Continued on page 124

Necrologies

Henry Wilson Abbott, M.D.
1884-1957

Henry W. Abbott, M.D., 73, of Waterville, died October 7, 1957.

Dr. Abbott was born in Albion, August 18, 1884, the son of Dr. Carroll W. and Georgia Wilson Abbott. He attended public schools in Waterville, Colby College for one year, and received his medical degree from the Maine Medical School at Bowdoin in 1908. Following his graduation he entered the practice of medicine with his father.

A member of the American Medical Association, a Senior member of the Maine Medical Association and the Kennebec County Medical Society, Dr. Abbott was on the staff of Sisters' Hospital in Waterville.

He was a member of the Waterville Lodge No. 33, F. & A.M. and was a past master. He was a Past High Priest of the chapter, past commander of St. Omer Commandery and a 32nd Degree Mason.

He is survived by his widow, Mrs. Emma Leonice Abbott; two sons, Carroll Waite Abbott and Henry Wilson Abbott, all of Waterville; and three grandchildren.

William James Young, M.D.
1881-1957

William J. Young, M.D., 76, of Auburn, died on December 2, 1957.

Dr. Young was born in Boston, September 9, 1881, the son of James and Sarah Young. He was educated in Boston Schools, graduated from Springfield College in 1907, and received his medical degree from the School of Medicine of the University of Pennsylvania in 1911. He did post-graduate work at Toronto General Hospital, New York Eye and Ear Infirmary and served his internship at the State Hospital in Chelton, Connecticut.

A member of the American Medical Association, a Senior Member of the Maine Medical Association, and the Androscoggin County Medical Association, Dr. Young was district health officer for Androscoggin, Franklin, and Somerset Counties until 1951.

He was Director of Athletics at William and Mary College, Williamsburg, Virginia, from 1912 to 1914. From 1914 to 1916, he held the position of College Physician at Grove City College, Grove City, Pennsylvania; and from 1916 to 1918 he was College Physician at the University of Maine. He was Director of Athletics at Texas A. & M. in 1919 and 1920.

During World War I, Dr. Young was Commander of a Field Hospital in France and became a Lieutenant Colonel in the United States Army Reserve. He was a member of the Association of Military Surgeons for 40 years and a member of the American Legion and the 40 and 8.

Dr. Young was also a member of the American Public Health Association, the High Street Congregational Church and the men's club of that church, Ashlar Lodge of Masons, Scottish Rite Bodies and Kora Temple. He was a 32nd degree Mason.

He was interested in Civil Defense and held the position of Commander of the First Aid Mobile Unit of Androscoggin County until his death He also maintained an active interest in his profession and attended lectures and clinics in his community.

Dr. Young is survived by his widow, the former Margaret E. Braun; a son, James of Youngstown, Ohio; a daughter, Mrs. Joseph Cunningham of Watertown, Connecticut; a brother, Ralph H. Young of Dorchester, Massachusetts; a sister, Mrs. George S. Cushman of North Weymouth, Massachusetts; and five grandchildren.

County Society Notes

ANDROSCOGGIN

January 16, 1958

The January meeting of the Androscoggin County Medical Association was held at Central Maine General Hospital. Paul J. LaFlamme, M.D., Lewiston, President, called the meeting to order. There were 26 members present.

Edson B. Buker, M.D., of Auburn, was elected to Honorary membership and William J. Fahey, M.D., of Lewiston and Harold S. Pratt, M.D., of Livermore Falls were made Senior members.

Donald H. Horsman, M.D. was appointed chairman of the Public Relations Committee. Drs. Gerard L. Morin and Frederick B. Lidstone were appointed members of the committee.

Otis B. Tibbetts, M.D., chairman and Drs. Michael J. Harkins and J. Paul Nadeau were re-appointed as the Finance Committee.

Burdick Clarke, M.D., Associate Professor of Urology at Tufts Medical School and Chief of Urology at the New England Medical Center, gave an interesting and thorough discussion of the management of urinary tract infections including diagnostic procedures and drugs employed.

Donald L. Anderson, M.D.
Secretary

Paul Milton Beegel, M.D., of Auburn, has been elected a Diplomate of the American Board of Orthopedic Surgery.

WASHINGTON

February 5, 1958

The Washington County Medical Society and the St. Croix Medical Society met together at the Charlotte County Hospital, St. Stephens, New Brunswick. Harold G. Sears, M.D., of Woodland, presided at the business meeting. The Society voted against compulsory social security for physicians.

Kenneth Grant, M.D., of the Children's Hospital, Halifax, Nova Scotia, was introduced by Frederick Whitehead, M.D., Executive Secretary of the New Brunswick Medical Association. Dr. Grant spoke on "The Infant That Fails To Thrive." He covered all of the various causes of vomiting. Atresia of the esophagus must be recognized within the first 48 hours; pyloric stenosis and subdural effusion do not appear for days or weeks. Diarrhea is another cause of failure to thrive. Infection in the bowels and in other parts of the body should be discovered and treated. Many infants fail to thrive because of fat or milk intolerance. Poisoning is another cause and in a highly sensitive child the boric acid used to wash out the eyes may cause trouble. Dr. Johnson of St. Stephens, N. B., presented some atypical cases of pertussis for discussion by Dr. Grant. Dr. Grant spoke briefly on meningitis and its treatment. The modern therapy is massive treatment with penicillin, Chloromycetin® and sulfadiazine. When a special organism is found, treatment is modified somewhat. Results are usually good, but H.influenza and pneumococcus meningitis still cause death or serious complications in many cases.

Following the meeting, the doctors and their wives were entertained with dinner and a travel movie.

KARL V. LARSON, M.D.
Secretary

HANCOCK

February 12, 1958

The February meeting of the Hancock County Medical Society was held at the Hancock House, Ellsworth. William C. Luther, M.D., West Sullivan, President, opened the meeting.

Parker Heath, M.D., of Sullivan, spoke on eye conditions of interest to the general practitioner.

The Society voted to have a combined meeting with the dentists next month.

The following members were present: Drs. James H. Crowe, Theodore S. Hsu, and Marcus A. Torrey, Ellsworth; Philip L. Gray and Russell G. Williamson, Blue Hill; Arthur M. Joost, Jr., and W. Edward Thegen, Bucksport; Charles H. Knickerbocker, Bar Harbor; Harry Kopfmann, Deer Isle; William C. Luther, West Sullivan; Herbert T. Wilbur, Jr., Southwest Harbor. Guests: Drs. Heath, Jennings and Betty Williamson.

ARTHUR M. JOOST, JR., M.D.
Secretary pro temp

TAKE A LOOK AT
NEW DIMETANE®
THE UNEXCELLED
ANTIHISTAMINE

New Members

ANDROSCOGGIN
Wilfred A. Cloutier, M.D., 210 Sabattus Street, Lewiston
George Dycio, M.D., 55 Broad Street, Auburn
Joelle C. Hiebert, Jr., M.D., 369 Main Street, Lewiston
Cyprien L. Martel, Jr., M.D., 355 Pine Street, Lewiston

CUMBERLAND
Fred Skillin, M.D., Bridgton
Joseph Uhrik, M.D., Gray

FRANKLIN
Joseph E. Martin, M.D., 23 Water Street, Livermore Falls

KENNEBEC
Henry Hecht, M.D., Augusta State Hospital, Augusta

PENOBSCOT
Albert L. Babcock, M.D., 92 Essex Street, Bangor

Deceased

CUMBERLAND
Chester L. Clarke, M.D., Portland, January 22, 1958
Francis W. Hanlon, M.D., Portland, January 10, 1958
C. Capen Peaslee, Jr., M.D., Portland, January 6, 1958
Clement P. Wescott, M.D., Windham Hill, February 16, 1958

KENNEBEC
Henry W. Abbott, M.D., Waterville, October 7, 1957

LINCOLN-SAGADAHOC
George E. Dash, M.D., Boothbay Harbor, February 17, 1958

PENOBSCOT
Cornelius J. Taylor, M.D., Bangor, February 18, 1958

News and Notes

Bangor Medical Club

Robert O. Kellogg, M.D., of Bangor, was elected president of the Bangor Medical Club at the annual meeting on January 30, 1958. Other officers include Albert C. Todd, M.D., of Brewer, president-elect; William M. Shubert, M.D., of Bangor, secretary-treasurer; and Richard V. Duffey, M.D., of Brewer, member of the executive committee.

Mercy Hospital

Harry E. Davis, M.D., a pediatrician, of Portland, was elected president of the medical staff of Mercy Hospital. Other officers elected were Eugene P. McManamy, M.D., vice-president and Howard M. Sapiro, secretary-treasurer. Otis J. Douphinett, M.D., is retiring president.

Dimetane®
(PARABROMDYLAMINE MALEATE)
TABLETS (4 MG.), ELIXIR (2 MG. PER 5 CC.) AND EXTENTABS® (12 MG.) UNEXCELLED POTENCY, UNSURPASSED THERAPEUTIC INDEX AND RELATIVE SAFETY. MINIMUM DROWSINESS AND OTHER SIDE EFFECTS.
A. H. ROBINS CO., INC., RICHMOND, VIRGINIA. ETHICAL PHARMACEUTICALS OF MERIT SINCE 1878
Robins

Announcements

Pineland Hospital and Training Center Pownal, Maine

Carl Hedin General Hospital — Red Room

March 27 — Clinical Pathological Conference
(Death Review and Microscopic Demonstration)
11:00 A.M.

American Academy of General Practice

The fifth annual tri-state meeting of the American Academy of General Practice sponsored by the New Hampshire, Vermont and Maine chapters will be held April 23 at the Eastern Slopes Inn, North Conway, New Hampshire.

The doctors wives will be entertained with a trip up Mt. Cranmore on the Skimobile and a style show by Carroll Reed.

Course in X-ray Diagnosis

A course in X-ray Diagnosis in General Medicine will be given at Central Maine General Hospital, Lewiston. Clark F. Miller, M.D., Chief, Department of Radiology, Central Maine General Hospital and Regional Instructor in Radiology, Tufts College Medical School, will conduct the course. The registration fee is $20 and the course is approved for credit by the Academy of General Practice, category 2. There will be six sessions from 4 to 6 P.M. on the following dates: April 6, 9, 16, 23, 30, and May 7.

Multiple Sclerosis Society

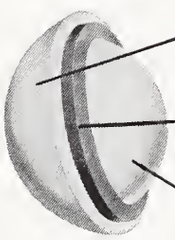
The Maine State Chapter of the National Multiple Sclerosis Society will hold a statewide MS Conference at the Augusta House, Augusta, Maine on April 16.

Keynote speaker at the noon luncheon will be Thomas L. Willmon, M.D., Director of Medical Research for the National Multiple Sclerosis Society of New York City.

Services for MS patients will be discussed by leading members of the medical profession; and professional leaders in the fields of occupational and physical therapy, rehabilitation, health education, as well as representatives of the Maine Chapter. This promises to be an enlightening session for professional and lay people interested in this serious health problem which claims 250,000 known victims and another 250,000 with closely related neurological diseases in the United States.

Meeting will open at 10:00 A.M. Those who attend will be the guests of the Maine MSS Chapter at the luncheon at 12:30. Reservations should be made before April 5th. Write: Maine Chapter, National Multiple Sclerosis Society, 40 Main Street, Farmington, Maine.

NEW *"flavor-timed" dual-action*
CORONARY VASODILATOR
Dilcoron TRADEMARK
ORAL (tablet swallowed whole)
for dependable prophylaxis
SUBLINGUAL-ORAL
for immediate and sustained relief
of ANGINA PECTORIS



NITROGLYCERIN—
0.4 mg. (1/150 grain)—acts quickly
CITRUS "FLAVOR-TIMER"—
signals patient when to swallow
PENTAERYTHRITOL TETRANITRATE—
15 mg. (1/4 grain)—prolongs action

For continuing prophylaxis patient swallows the entire Dilcoron tablet.
Average prophylactic dose:
1 tablet four times daily.
Therapeutic dose:
1 tablet held under the tongue until citrus flavor disappears, then swallowed.

Bottles of 100.

Winthrop LABORATORIES NEW YORK 18, N. Y.

Letter To The Editor

Rank And File M.D. Wants U. S. Social Security

Editor of Maine Medical Journal:

A few years ago at an annual meeting of the House of Delegates of the American Medical Association I was the only M.D. who spoke in favor of U. S. Social Security for self-employed physicians. This was at a hearing held by the AMA on a resolution seeking endorsement of it. Ever since, almost without other support, (and no financial support whatever to this day) I have been trying to make the rank and file M.D. see that we can have and should have this "Social Security" and we will have it *if* we let Congress see that *we* rank and file M.D.'s want it.

Last June at the AMA convention in New York City another hearing on the Social Security question was held. At it I again spoke but so did some others who are *not* satisfied with the way the big brass of the AMA speaks for us of the grass roots on this vital question. Maine has only one young delegate and no alternate in the AMA House of Delegates *but* all M.D.'s are allowed to speak for themselves, and all should do so now while Congress is in session by talking, wiring, or writing direct to Congressmen.

All doctors anywhere in America who want S.S. for themselves and their families should do this even though a poll of the rank and file was taken or will be taken. Polls taken on a state-wide basis in Massachusetts and Connecticut show that over 70% of the doctors in these states voted for S.S. They did this even when their representatives in the AMA had already voted the other way.

The AMA's House of Delegates has voted against giving us a nationwide poll of the membership, something some of us have been advocating for some time.

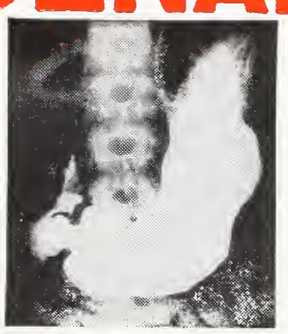
America still has many dedicated independent thinking doctors who are not rich surgeons, or on good salaries, and who have not like sheep been led astray by the Blue Shield overlord or that too-powerful small group in the house of delegates of the AMA who do not want M.D.'s to have U. S. Government Social Security for themselves or their families. These doctors know that the members of all other professions through Act of Congress have been put on Social Security and if each doctor who wants S.S. only takes the time to write to six U. S. Senators or Congressmen they too will be made eligible for Social Security, by Congress in short order.

As I so well know *from experience* there is no wish to present the case for Social Security *for* M.D.'s or *against* so-called Voluntary Health Insurance including Blue Shield in the Medical Journals (see Editor's note) or the daily press of the U.S. for the Public Relations Department of the AMA and of most state societies are *continually trying to brain-wash* the doctors and the general public with propaganda saying that the majority of the M.D.'s do not want S.S. and that Blue Shield *can* be made to work satisfactorily.

For over ten years I have tried hard to make the public and the doctors see that all Voluntary Health Insurance plans, including Blue Shield are frightfully expensive, and have created more problems than they have solved. We who have

when anxiety and tension "erupts" in the G. I. tract...

IN DUODENAL ULCER



PATHIBAMATE*

Meprobamate with PATHILON® Lederle

Combines Meprobamate (*400 mg.*) the most widely prescribed tranquilizer . . . helps control the "emotional overlay" of duodenal ulcer — without fear of barbiturate loginess, hangover or habituation . . . *with* PATHILON (*25 mg.*) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.

Dosage: 1 tablet t.i.d. at mealtime. 2 tablets at bedtime. *Supplied:* Bottles of 100, 1,000.

Lederle

*Trademark ® Registered Trademark for Tridihexethyl Iodide Lederle

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

practiced a long time know they were not needed in the first place and that they have made many American Medical doctors who should be their own boss just abject hand-maidens of commercially-minded insurance people. When a doctor cannot use his own best judgment he cannot give the best possible service to his patients.

Because we do not always get the news presented to us impartially I believe it is time the medical and lay press give out the data which *supports* giving U. S. Government S.S. to everyone including M.D.'s and also all data which tends to prove that Voluntary Health Insurance including Blue Shield Surgical & Obstetrical Insurance and every other kind has created more problems than it has solved.

I have long had the firm conviction that this kind of insurance is not a needed kind and that it is much too easily sold.

I began practicing when American Medicine was the best in the entire world and before we had meddlesome well-paid middlemen standing between doctor and patient handcuffing both as is now the case in so many instances.

American doctors in years gone by were free from entangling alliances with controlling self interested insurance middlemen and *looked up* to because they *could* and did live up to the Hippocratic Oath and a high minded Medical Code of Ethics. Insurance people with their more money-minded restricting rules and regulations and a far different commercial code of conduct are making *no* contribution to better medicine in my opinion and in the opinion of many dedicated doctors who practiced before these meddlesome middlemen disrupted the more satisfactory and successful *old way* of having the patient pay his doctor directly or not at all.

Insurance people now restrict the precious freedom and liberty of both patient and doctor and deteriorate the quality of American medical care. American medicine is at its best when there are no well-paid middlemen between the doctor and his patient.

ADRIAN H. SCOLTEN, M.D.

EDITOR'S NOTE.

This Journal, for one, has presented "both sides."

See following issues of Journal of Maine Medical Association:

Feb., 1956 — Pg. 51, 52, 53 Arguments for and against
April, 1956 — Pg. 113 "Your Senators and Mine" and "Two Controversial Bills"
May, 1956 — Pg. 142 "The Way the Drs. in Maine Voted" (195 for, 280 against)
Aug., 1956 — Pg. 257 "The Congress of the U. S. and Your Wishes"
Dec., 1957 — Pg. 447 Special Article, "I Am In Favor Of Social Security For Physicians" George O. Cummings, M.D.
Jan., 1958 — Pg. 17 "Why Physicians Should Not Be Under Social Security" Frederick W. Slobe, M.D.

Another Poll of the Entire Membership of the Maine Medical Association now under way. Cards sent to each member in February, 1958. Results will be in April, 1958 issue of the Maine Medical Association.

PALLIATIVE TREATMENT OF BENIGN PROSTATIC HYPERTROPHY — *Continued from page* 101

feeding; dosage considerations, *New York State J. Med.* 55:3453, 1955.
11. *U.S. Dispensatory*, ed. 25, Philadelphia, J. B. Lippincott Co., 1955, pp. 63-64.
12. Price, J. C., Waelsch, H., and Putnam, T. J., *dl*-Glutamic acid hydrochloride in treatment of petit mal and psychomotor seizures, *J.A.M.A.* 122:1153, 1943.
13. Zimmerman, F. T., and Ross, S., Effect of glutamic acid and other amino acids on maze learning in white rat, *Arch. Neurol. & Psychiat.* 51:446, 1944.
14. Albert, K., Hoch, P., and Waelsch, H., Preliminary report on effect of glutamic acid administration in mentally retarded subjects, *J. Nerv. & Ment. Dis.* 104:263, 1946.
15. Ibid. ref. No. 10, p. 610.
16. Hinman, F., The obstructive prostate, *J.A.M.A.* 135:136, 1947.
17. Metropolitan Life Insurance Company, National Office of Vital Statistics, Special Reports Volume 46, No. 1.
18. Chapman, T. L., Expectant treatment of benign prostatic enlargement, *Lancet* 2:684, 1949.

Dr. Feinblatt, 154 Woodruff Avenue, Brooklyn 26, New York
Dr. Gant, Madison Sanitarium and Hospital, Madison College, Tennessee

---

DEPARTMENT OF HEALTH AND WELFARE — *Continued from page* 118

growth may be obtained from meat, fish, or poultry. Cheese, eggs and dried beans and peas may be used as meat substitutes. Liver, rich in iron, should be frequently included in the diet. It is well to have a daily intake of vitamin D and three teaspoons of butter or margarine. Other fruits and vegetables as well as breads and cereals are needed to complete the body's requirement for vitamins and minerals. Unless at least three or four servings of bread or cereal be eaten daily, thiamine and iron would be inadequate.

Any nutrition improvement that may occur during pregnancy might well be of benefit to the entire family. The good food habits established during pregnancy may be carried over into daily meal planning after the arrival of the expected baby. This will also prepare a mother to be well-nourished at the time of future pregnancies.

Nutrition during such an important time cannot be taken lightly. It is of great importance to the health and well-being of both mother and infant. Many hospitals have prenatal clinics and, in some instances, nutrition is a part of the services offered. It would be well if it were offered in all prenatal clinics. Consultant services are given to hospitals in the State desiring to include nutrition in the prenatal clinic, by the State Nutrition Consultant.

The leaflet "Eat Well To Feel Well and Have A Healthy Baby," and other information regarding prenatal diet may be obtained upon request from Nutrition Services, Division of Maternal and Child Health, Department of Health and Welfare, Augusta. A diet for pregnancy is included in the Maine Diet Manual. Copies of the diet for use by doctors and hospitals may also be obtained from the above address.

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, April, 1958 | Number 4

The Rational Use Of X-Ray In Medicine And Dentistry With Particular Regard To Protective Measures

A. Bradley Soule, Jr., MD.,* Hans Heilbronn, M.D.,* and Ralph Bannister, R.T.*

"The medical use of radiation is clearly of utmost value in the prevention, diagnosis, investigation and treatment of human disease, but the possible effects of this irradiation of individuals require examination." This is the text of the sermon preached recently by the United Nations Scientific Committee on the effects of atomic radiation.[1]

The release in December 1956 of the report of the study made by the National Academy of Sciences for the National Research Council[2,3] regarding the biological effects of atomic radiation with its cautionary words regarding the excess use of ionizing radiation in medicine and surgery created a mild furor among the press and public probably comparable to the original announcement in 1895 of Roentgen's discovery of the x-ray. Although most published comments suggested thoughtful consideration of the problems raised and action based on sound judgment, there were many semi-hysterical reactions among news commentators, columnists and others. The general public was confused and frightened by such ill-advised comments as these: "From one standard chest x-ray you are exposed to one hundred times the dosage received from an atomic explosion five miles above your head," "specialists advise against wearing of wrist watches with luminous dials and against sitting in front of a TV set," "the doctor who uses x-ray must consider whether he may be condemning his patient to an early death." One grandmother asked if it would be safe for her grandchildren, living several hundred miles away, if she had a chest x-ray examination.

In order to guide the physicians and dentists in Vermont in deciding whether an x-ray examination was safe to order in any given case, the Department of Radiology of the University of Vermont College of Medicine distributed to them in March 1957 a group of suggestions based on the Department's interpretation of the N.A.S.-N.R.C. report and on measurements of gonadal doses received in various types of x-ray examinations. This paper is an augmented revision of the March 1957 release. It makes no pretense of presenting an authoritative answer to the complex problems considered.

Summary of Report of N.A.S.-N.R.C.

In discussing the biological effects of atomic radiation, the study committees called attention to the potential dangers of undue exposure to radiation from any source, including excessive use of x-ray in medical and dental examinations, radioactive fall-out from testing atomic weapons, leakage from improperly constructed or imperfectly operated nuclear power plants and from certain aspects of experimentation in atomic and nuclear physics.

In this report it is pointed out that the inheritance mechanism is by far the most sensitive to radiation of

*Department of Radiology, University of Vermont College of Medicine, Mary Fletcher Hospital, Burlington, Vermont.

Radiation exposures resulting from necessary medical and dental procedures shall be assumed to have no effect on the radiation tolerance status of the person concerned.

any biological system, radiation reaching the reproductive cells having the property to cause mutations that may be passed on to succeeding generations. It is stated that there is no minimum amount of radiation which must be exceeded before mutations occur, but the more radiation, the more mutations, as observed in living materials such as germinating seeds, fruit flies and other low forms of life which may be followed through many generations in a relatively short period of time.

In some of the studies made, it has been apparent that damage is cumulative and depends on the total accumulated gonad dose received by the organism from the time of conception until the conception of its final offspring. Severe and obvious dangers may be apparent in the first generation; in other cases it may require hundreds of generations.

It should be emphasized, however, that *most of the observations made in lower forms of life have not been made in man,* and during the sixty or more years since x-ray was first used in medicine, no obvious genetic ill effects have been apparent when dosage has been held within accepted safe limits. It is, of course, too early to evaluate effects which may appear only after a number of generations. The interested student of the subject is referred to the series of special articles in the New England Journal of Medicine[4,5,6] which summarize in some detail the current thinking on the principles involved.

In the N.A.S.-N.R.C. report it is estimated that the average person in the United States receives during a thirty year period about 4.3 rems (roentgens-equivalent — man) from natural background, about 3 rems from medical and dental x-rays and about 0.02 rems from weapons tests. Some persons get practically none; others get a great deal more than average.

Recommendations of the Study Committees

The National Committee on Radiation Protection and Measurement has made certain recommendations[7] regarding the maximum permissible dose (MPD) for persons subject to exposure to radiation, either as part of their occupation or from any other cause (Table I). In their report, as in the British report of the Medical Research Council[8], it is emphasized that *"radiation exposures resulting from necessary medical and dental procedures shall be assumed to have no effect on the radiation tolerance status of the person concerned."* This realistically takes into consideration the concept that in attempting to diagnose illness or injury in a patient the value of the evidence received from x-ray findings must be balanced against any theoretical and, at best, vague and uncertain risks which might be entailed. The study committees do, of course, urge that the medical and dental use of x-rays be restricted as much as is consistent with medical necessity.

TABLE I

Recommended Maximum Permissible Dose (MPD) to Gonads

1. Accumulated Dose. MPD in rems (roentgens-equivalent-man) is equal to 5 times the number of years beyond age 18, provided no annual increment exceeds *15 rems.* Thus an individual from time of conception to age 18 is allowed not more than a total of *5 rems.* Age 25: *35 rems.* Age 35: *85 rems, etc.*

2. Emergency Dose. An accidental or emergency dose of *25 rems* to the whole body once in a lifetime is assumed to have no effect on radiation tolerance of the individual. *Note that much higher doses may be safely and usefully delivered to limited portions of the body under the controlled conditions of radiation therapy.*

3. Weekly and Annual Dose for Exposed Personnel. For those people who are engaged in occupations involving exposures to radiation, the MPD should not exceed *0.3 rems* in any single week. It is desirable, however, to keep the average dosage to about one-third this amount in order not to exceed a total of *5 rems* per year.

4. Medical Dose. Radiation exposures resulting from necessary medical and dental procedures shall be assumed to have *no effect on the radiation tolerance status of the person concerned.*

The study committees have noted that "large exposures (100 r and up) of the whole body or a large part of it are generally harmful when received in a single dose. . . . *"Much higher doses, however, may be safely and usefully delivered to limited portions of the body under the controlled conditions of medical treatment."*

The committees also recommend the establishment of a national system of radiation record-keeping with a notation of each individual's exposure to x-rays and all gamma radiation. For the protection of personnel occupationally exposed to radiation, many safety precautions are advised including the use of monitoring devices.

Biological Hazards Other Than Genetics

Since almost the earliest years of use of x-ray for medical purposes, many of the biological effects of high dosage of radiation have been recognized. Every radiologist and trained x-ray technician is well-versed in

. . . while every effort should be exerted to keep the dose of radiation to the lowest possible level to the people who are well, this should be no deterrent to the use of x-ray in detecting and identifying disease processes in patients who are ill, provided that this is done by physicians and technicians who are trained and experienced in making such examinations.

the known effects on skin, germ cells, lymphoid tissue, bone marrow and other organs. These will not be discussed in this paper. Suffice it to say that through use of shielded equipment, intensifying screens, protective filters, cones and collimators, shutters, diaphragms, lead aprons and gloves and through judicious limitations as to the numbers and types of x-ray exposures made, radiologists and technicians for more than forty years have been using their knowledge of radiation biology and pathology to protect patients against over-dosage. While most of their efforts have been exerted to guard against the more immediate somatic effects on the patients receiving the radiation, there have been positive efforts made to prevent undue exposure of the gonads, even though the motivation was on somewhat different grounds.

Over the years evidence has accumulated which indicates that certain hazards exist for persons working with x-ray or radioactive material who are subject to either single heavy or frequently repeated small exposures. Dameshek and Gunz[9] have recently summarized the evidence which strongly suggests that excessive exposure carries with it a leukemogenic factor. They refer to the incidence of leukemia in radiologists which is 8 to 10 times as great as that in physicians in other fields, and the incidence of leukemia in Hiroshima and Nagasaki victims which has been 12 times greater in those survivors near the hypocenters of the blast areas than in those near the peripheries. Reference was also made to the relatively high incidence of leukemia in several groups of patients from Holland and Great Britain who had been given x-ray therapy for spondylitis;[10] possible leukemogenic effects on infants from use of diagnostic radiation in utero;[11] and the results of certain experiments on mice which seem to indicate a leukemogenic effect from x-ray and nuclear radiation.[12] Use of x-ray therapy in children with enlarged thymic glands has been followed in a number of instances by development of leukemia or by carcinoma of the thyroid gland.[13,14,15]

In most if not all of these studies the mechanism of injury is speculative but the evidence is convincing to many that a causal relationship exists. Although the application of "post hoc propter hoc" reasoning may well carry with it the development of fallacious conclusions, it behooves us as physicians and radiologists and technicians to be as sparing as possible of radiation as is consistent with good medical practice.

Principles Involved In Protection Against Adverse Genetic Effects Of Radiation

If, following the recommendation for "accumulated dose" noted in Table I, it is assumed that during the first eighteen years of life an individual should receive no more than 5 rems of radiation to his or her gonads, it seems obvious that as long as that person is well every effort should be exerted to protect him or her against exposure to x-radiation other than that required to maintain health. It also seems good judgment to be especially sparing of radiation to younger individuals, particularly the embryo and unborn foetus, the infant and young child, unless an indication for x-ray examinations involving the whole body or the gonad area in particular exists.

It also seems doubtful wisdom to order or to perform on any patient of procreative age or less combinations of series of x-ray examinations of pelvis and lower spine, pyelograms, barium enemas, gall-bladder and gastro-intestinal series, purely as a "scouting" procedure or as part of a "routine health examination." The "shotgun" type of x-ray study should not replace nor precede a careful history and physical examination of the patient. Certain combinations of studies may be entirely justified, nevertheless, when medical indications for each exist, or as part of a "routine health examination" of the middle-aged and elderly adult in whom the genetic hazard does not exist.

In this regard, *a clear distinction must be made between the population that is well and that which is ill or in which there is suspicion of disease.* In other words, while every effort should be exerted to keep the dose of radiation to the lowest possible level to the people who are well, this should be no deterrent to the use of x-ray in detecting and identifying disease processes in patients who are ill, provided that this is done by physicians and technicians who are trained and experienced in making such examinations. Certainly the theoretical dangers of damage to future generations must be balanced against the more immediate dangers of failing to identify a serious disease process, especially when this involves using an amount of radiation that to the best of our knowledge is within safe limits.

Dosage Of Radiation To Gonads In Various Procedures

In attempting to decide in any given case whether a genetic hazard may exist by the performance of an x-ray

TABLE II

Approximate Dosage to Gonads in X-ray Examinations with Lead Rubber Shielding Applied

(Based on averages derived from reported studies and from measurements made in Department of Radiology, Mary Fletcher Hospital)

Part	*Number of Exposures*	*Adult Male rems*	*Adult Female rems*	*3-year-old Child rems*
Chest:				
Conventional p.a. & lat.	2	0.00016	0.0008	0.001-0.010
Photofluorography p.a. & lat.	2	0.0008	0.0400	—
Lumbosacral spine a.p. & lat.	2	0.100	0.500	0.300
Hip, a.p. & lat.	2	2.530	0.525	0.100-0.200
IV Urography	6	0.100	1.000	—
	4	0.080	0.800	0.400
Cystography	4	2.000	2.300	—
Salpingography	3	—	0.450	—
Barium enema (2 minutes fluoroscopy)				
5 spots; 4 large radiographs		2.000	2.500	—
2 spots; 2 large radiographs		1.000	1.500	0.300
Upper G.I. Series (4 minutes fluoroscopy) 5 spots; 4 large radiographs		0.200	0.400	0.200
Gall Bladder Series	5	0.005	2.020	—
			Foetal Gonads rems	*Maternal Gonads rems*
Pelvimetry (Suggested method)	2			
Cephalic presentation			0.010	0.050-0.500
Breech presentation			0.800-2.000	0.050-0.500
Placentography	2		0.500-2.000	0.500-2.000

Examinations of the skull, cervical and thoracic spine and extremities other than hips involve such minute doses to gonads that they may be considered as negligible (0 - 0.010 rem) — less than is permitted as a daily dose for exposed personnel.

examination, one must consider the approximate amount of radiation that will be received by the gonads from this examination. Unfortunately this varies widely with different radiology departments and probably within a single department. All too many variables are present — in x-ray machines, in use of cones, lead shielding, filters and diaphragms, intensifying screens, and especially in the imponderables of technical skill and care of the person at the controls, the demands of the referring physician and the radiologist and the amount of exposure from previous examinations. If, however, a reasonably skillful examination is performed with economy in the number and size of exposures and with attention given to proper coning and to effective screening of gonads, it is usually possible to estimate the approximate amount of radiation received.

There are a number of published tables of dosage received by the gonads in various procedures.[5,16,17,18,19] All must be interpreted in the light of the techniques used in the institution where the studies were made. For example, in making a lateral radiograph of the lumbosacral spine, if the male gonads are protected by coning and by lead screening they may receive as little as 0.040 rems. On the other hand, if a large cone is used and if the central beam is directed low enough so that the scrotum is included and if this is not screened with lead

or other lead rubber, it is possible to administer as much as 2.0 rems to the testes.

Table II gives an approximation of dosages to the gonads from various types of examinations. This dosage table has been developed from averages of studies made by a number of investigators, including ourselves, on phantoms and on patients with dosimeters placed intravaginally, intra-rectally and para-scrotally. We cannot emphasize too strongly that these listed doses are only *average* and *approximate* and imply careful attention in each case to protective techniques.

It will be noted that the procedures which are most prone to be associated with anything approaching high dosage to the gonads are those in which of necessity the gonads are included in the direct beam and in which moderately heavy milliampere-seconds of exposure are employed. Lateral radiographs of the hip and pelvis involve the heaviest exposures of all to both males and females. On the other hand, examinations of the skull, cervico-dorsal spine, chest and extremities other than the hip, when performed with adequate screening and coning, are associated with such minute doses of radiation to the gonads that they may be considered as negligible as far as genetic risks are concerned.

Guides To Those Making X-ray Examinations

In any study made, the following principles should guide those concerned:

(1) All x-ray examinations should be made by persons trained and experienced in the type of examination being performed, whether it be a dental x-ray study by a dentist or hygienist — a routine chest radiograph made by a technician trained in this field or a complex examination such as is involved in myelography or aortography by a team of workers. This is an especially important consideration since it is estimated[4] that of more than 100,000 professional users of x-ray apparatus in the country, less than 5,000 physicians have had comprehensive special training of the kind leading to board certification and that only about one-fourth of the x-ray technicians have had training which has led to board registration. Most of the physicians and dentists who in recent years have suffered radiation injuries to themselves have been men who have had no special training in radiology.

(2) All equipment used should be modern, shockproof and ray-proof and both equipment and installations should meet U.S. Bureau of Standards requirements with proper shielding of walls, floors, ceilings and control booths. All x-ray tubes should be fitted with proper filters, diaphragms and collimators or cones. Bureau of Standards Handbook 60 entitled "X-ray Protection"[20] should be used as a bible in checking all conditions in the radiology department.

(3) The field of radiation should be limited to that area under need of study and other parts of the body should be excluded from exposure by diaphragms and collimators or cones and often by the use of lead or lead rubber of 0.5 to 1.0 mm. equivalent (Fig. 1.). Screening should be used with special care in the cases of young children who are so small that the entire body or a large fraction thereof can be included inadvertently in the beam in making an examination of an isolated part such as the skull, chest or an extremity (Figs. 2, 3, 4). A limit should be placed on the number of ex-



Fig. 1. A lead rubber apron covers trunk during radiography of the skull.

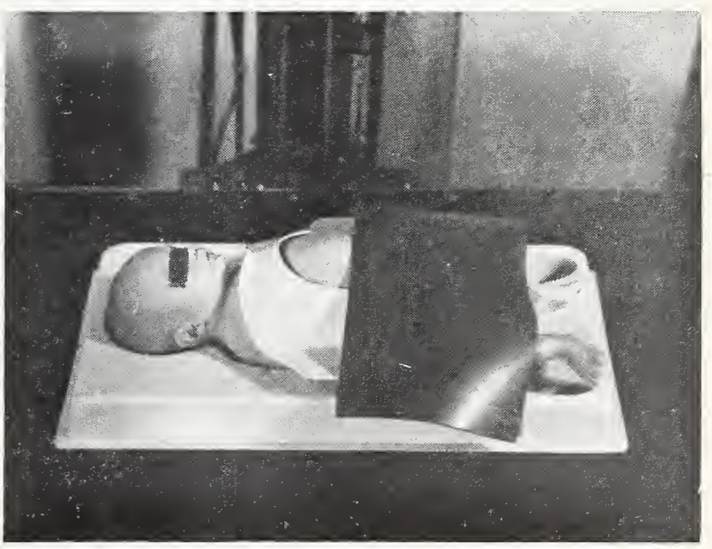


Fig. 2. Infant held in plastic immobilizer with lead shielding applied to abdominal and pelvic areas.

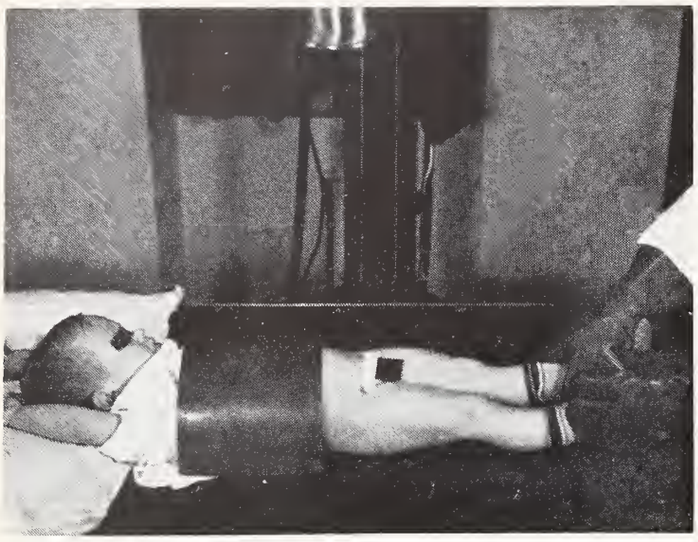


FIG. 3. During radiography of pelvis and hips, abdomen and scrotum are covered with lead rubber. Parent using lead gloves holds feet.

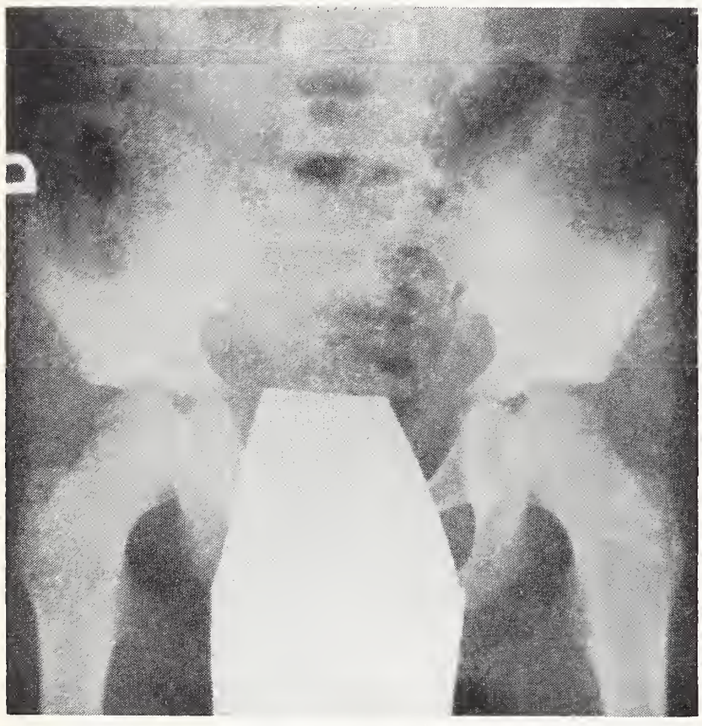


FIG. 4. Radiograph of hips with lead rubber shield over scrotum.

posures for any one examination and every effort should be made to get a diagnostic radiograph the first time. Here the necessity of having a competent technician at the controls is truly important. In the event of multiple or frequently repeated examinations, especially those involving fluoroscopy or heavy exposures of the pelvis, abdomen or lower spine, consideration should be given to the approximate total dose received by the patient; the need for additional radiographic evidence should then be balanced against possible ill effects of radiation, both immediate and remote.

As a reminder that "eternal vigilance is the price of safety," our technicians are required to note on x-ray requisition slips a stamped designation that lead shielding was applied (Fig. 5).

(4) Fluoroscopy which carries with it the heaviest dosage of all procedures should be performed only by trained physicians. Fluoroscopes should be operated at not over 3 milliamperes of current and with portal dose of not more than 10 r/minute (preferably not more than 5r/minute). They should be equipped with integral timing devices which break the circuit when a measured amount of time has elapsed.

Many little tricks to reduce radiation risk are known to every radiologist such as proper dark adaptation before beginning the examination, use of a high kilovoltage-low milliamperage current, use of small fields, rotation of the patient to alter entrance ports, off-and-on exposures (more "off" than "on,") thus making the most of brief glimpses, use of barium in stomach or bowel for screening effect, keeping the patient's body between the x-ray source and the operator's gloved hand, use of lead rubber on the table to protect the patient's gonads, etc. These can be acquired only by training and experience.

Personnel in the room other than the patient should be kept at a minimum — the radiologist and one or two technicians and, in studying a young child, an adult not ordinarily exposed to radiation to help hold the child if required. All of these should avoid exposure by the primary beam and should be so placed with reference to the x-ray source that exposure to secondary radiation is also avoided or minimized. All should wear lead aprons or similar protective material and lead gloves if the hands are to be exposed to the primary or secondary beam. Aprons on the fluoroscopic viewing-arm and shields over the Bucky aperture in the side of the table and image amplification may further reduce the intensity of radiation to the operator. Fluoroscopes should be checked to determine the rate of emission in r/minute under standard working conditions; if this seems unduly high, measures should be taken to correct the deficiency.

(5) In performing radiographic examinations, technicians should make all exposures from lead-lined booths or from behind lead screens. They should never expose themselves to direct or indirect radiation by holding children, dental films, etc. Exceptions may be present when technicians, surgeons or others may be required to appear in or near the field of radiation in such procedures as operating room radiography or cerebral angiography. In such cases, the fields should be coned as closely as possible and oftentimes a protective screen may be devised to screen the operators from exposure. (Fig. 6.)

(6) Some type of monitoring system, i.e., film badges, dosimeters, etc., is desirable for use by radiologists, residents, technicians, student technicians and any others who may be subject to exposure. This serves to monitor equipment against stray radiation and to protect personnel against dangers of chronic exposure. This may also provide medicolegal protection to the institu-

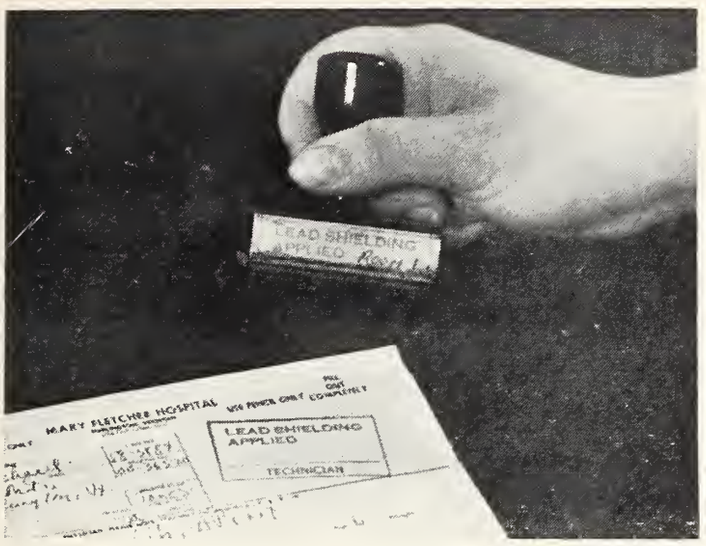


FIG. 5. After completing x-ray examination, technician stamps and signs requisition, indicating that shielding has been applied.

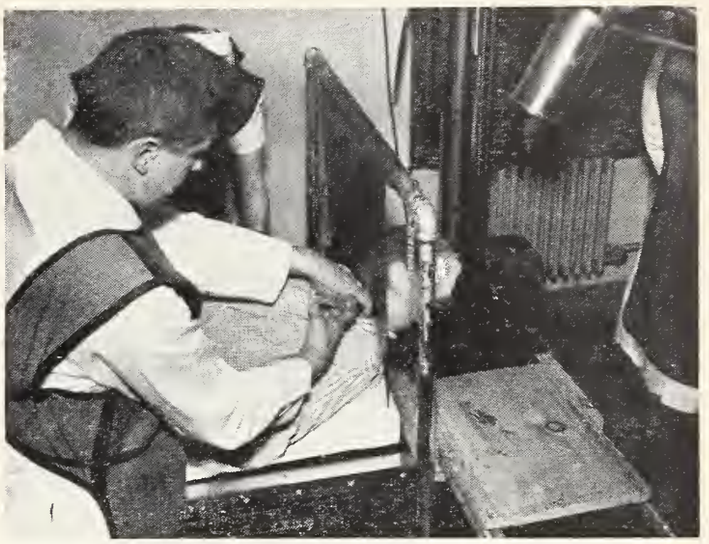


FIG. 6. During percutaneous injection of carotid artery for cerebral angiography, operator's hands are screened with lead rubber curtain.

tion in which the department is located. Monitoring is especially useful in reassuring personnel that they are not receiving undue radiation. The radiologist should personally see all reports of monitoring as soon as they are available; in the event that any monitored person is receiving more than the MPD of 96 milliroentgens per week, the case should be investigated and appropriate measures taken.

It is an interesting commentary on the system of monitoring that in most radiology departments after a system has been in effect for a few weeks the level of exposure usually drops to a point far below the MPD, principally because of development of good work habits of those being monitored.

(7) Routine pre-employment physical examinations should be performed on all personnel — this including a history of previous employment in any capacity where radiation exposure might have been received or of any unusual exposure to diagnostic or therapeutic radiation in the past. It is usually customary to check such personnel at this time with chest x-ray examination and complete blood count. It is probably desirable to do periodic chest x-ray studies and blood counts at yearly intervals but the Bureau of Standards recommends further blood counts after the original one only if an exposure beyond the MPD is received.

Traditionally, radiologists and x-ray technicians have been accustomed to taking a vacation of about one month of consecutive time each year on the basis that theirs is not a "healthy" occupation. It should be emphasized, however, that vacations should not be considered as protection against overexposure to radiation.

Examinations During Pregnancy

Because of possible hazards to the developing foetus and to the gonads of the foetus as well as of the mother, radiographic studies of the abdomen and pelvis of a pregnant woman should be taken only when indicated by compelling reasons. In order to protect an early embryo during what is probably its most vulnerable stage, it is now our practice to schedule elective x-ray studies involving the pelvis of women in the child-bearing age only during the first two weeks of the menstrual cycle.

Pelvimetric x-ray examinations or placentography should be restricted to those patients in whom obstetrical indications for such studies are present and in which failure to do the examination might jeopardize the life or health of mother or foetus. These are probably done with greater safety in the last month of pregnancy.

It was formerly our practice to take four radiographs of the pelvis and abdomen for pelvic measurement and evaluation, using the Thoms' position for antero-posterior and lateral projections of the inlet. This involved moderately heavy dosage of both foetus and maternal ovaries with something approaching 3 to 4 rems to each. The heaviest dose to the foetal gonads was received from the a.p. radiograph of the inlet in the Thoms' position when the foetal breech was in the fundus of the uterus only a few centimeters beneath the skin surface of the mother.

During recent months, it has been our practice to use a method which reduces the radiation dose to the foetal gonads to a very low level — less than 0.010 rems in most cephalic presentations. For both a.p. and lateral projections the patient lies supine on the table. A wide strip of lead rubber of 1.0 mm. lead equivalent is laid across the abdomen, with the lower edge at the level of the iliac crests. A medium cone which produces an image about 14 inches in diameter at 36 inches is used for both a.p. and lateral projections. The rays are directed toward the center of the pelvis for both. (Fig. 7.) The foetal head and upper thorax are usually in the fields of exposure but the abdomen and pelvis of the foetus are excluded from all but small doses of scattered radiation. It seems probable in many cases that the

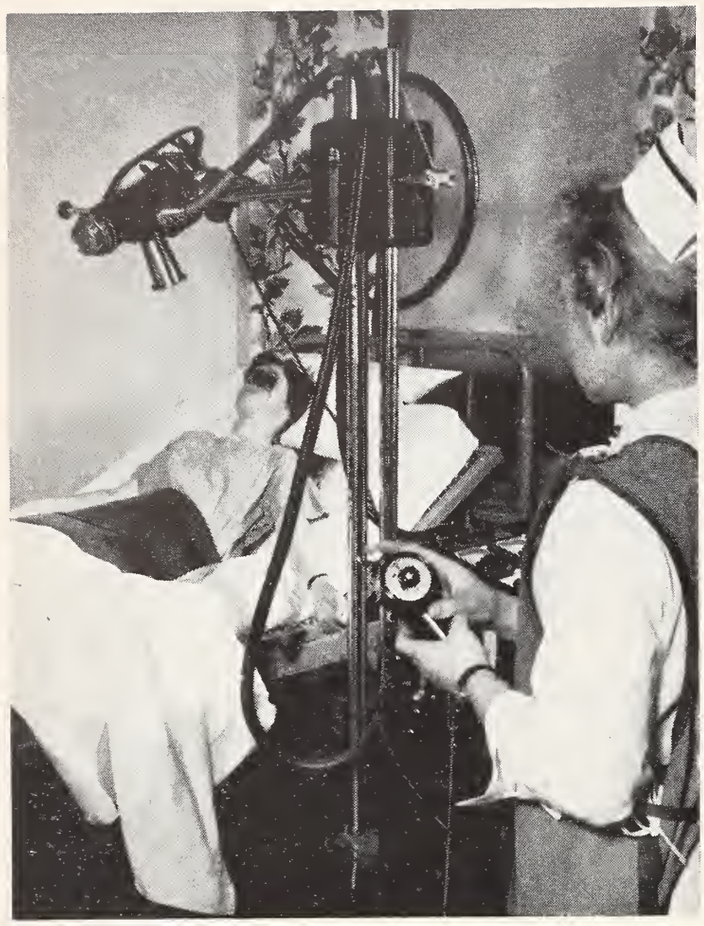


FIG. 7. In cephalic presentations, foetal gonads are screened with lead rubber.



FIG. 8. During bedside examinations, patient's pelvis is covered with lead rubber. Technician wearing lead apron stands well behind the mobile unit using a long timer cord.

maternal ovaries are also outside of the direct beam. From phantom studies made in our department, it seems probable that the maternal gonads receive considerably less than 0.5 rems from these two exposures.

In the event of a breech presentation, it is impossible to exclude the foetal gonads from the direct beam but with only two exposures, the estimated average dose to fetal gonads is approximately 0.8 to 2.0 rem depending on the depth of the gonads.

Use of new high speed film and intensifying screens, wedge filter, high kilovoltage technique and concentrated developing solutions all give promise of further reductions in the amount of radiation required to obtain radiographs of diagnostic quality. Technicians are cautioned against the necessity for "retakes," every effort being made to obtain a satisfactory pair of radiographs at the first sitting. While the a.p. radiograph taken in the supine position does not give the undistorted but magnified view of the pelvic inlet which is obtained with the Thoms' position, it can usually be well correlated with the lateral radiograph to give adequate information regarding pelvic architecture in nearly every case.

For placentography, we have relied on two 14 x 17 radiographs, one a.p. and one lateral of the pelvis and abdomen — a wedge filter being used for the lateral to compensate for the varying densities of abdomen and pelvis. Careful placement of the patient and cassette is required to insure that this single lateral radiograph includes the entire uterus. We have felt that preliminary partial filling of the bladder with 100 c.c. of sterile water plus 25 c.c. of 30% Urokon is helpful in many cases so this is done routinely in our department. Again, we have avoided "retakes," attempting to get diagnostic radiographs on the first attempt. This procedure does involve, however, a dose to maternal and fetal gonads of something in the order of 0.5 to 2.0 rems.

Urologic Examinations

Retrograde pyelograms which are usually performed on a urologic table offer no special hazard to the male patient whose gonads can be so screened with lead rubber that they receive less than 0.5 rems during the procedure. The female patient may receive somewhat more exposure but the pelvis can frequently be screened against the direct beam unless information is required regarding the distal ureters or bladder.

Cystography involves moderately heavy radiation to the gonads for both males and females — about 2.0 rems to the male and 2.3 to the female according to Robbins.[6] The use of a lead diaphragm with the aperture carefully cut to reduce the beam to the size of the required field will confine the beam and reduce scatter. Two mm. aluminum filtration is required as for all x-ray installations.

All too frequently the urologist and his assistants may be unnecessarily exposed to radiation during such studies. In general, personnel who do not need to be close to the patient during the examination should step into a protected area. Personnel who must be in the room should wear lead rubber aprons and such other protective devices as individual circumstances dictate. It is frequently possible to attach a sheet of lead rubber to the x-ray tube carriage so that it stretches down across the front of the table, thus preventing any

appreciable amount of stray radiation reaching the urologist during injection of media.[21] An aperture covered with a lead rubber flap allows cystoscope and catheters to extend through to the operator.

Important to the urologist is the development of good habits of operation for his own protection. Tests with dosimeters, film badges or dental films on various parts of his person during a work period will often give clues of hidden dangers which may be corrected or eliminated.

Examinations At The Bedside Or In The Operating Room

Mobile equipment should be shockproof and should be grounded during exposures. As with other equipment, cones and filters should always be used. Long timer cords will allow the technician to step well back from the machine during the exposure (Fig. 8). Personnel in the region of the x-ray beam should wear lead aprons, and the pelvis of the patient (if it is not being examined) should be covered with lead rubber.

In such procedures as hip-nailing or operating room cholangiography, techniques should be employed which do not involve the holding of cassettes in one's hands. A long-handled "shovel" for holding cassettes is especially useful in obtaining lateral radiographs of the hip or for extremity work. Many other gadgets have been devised to hold cassettes in vertical or other unusual positions.

Fluoroscopy for reduction of fractures or for operative removal of foreign bodies may be an extremely dangerous procedure for both patient and operator and except under certain highly controlled situations should rarely if ever be used.

Survey Radiographs of the Chest

Routine survey radiographs of the chest in which conventional full-size film is used involves practically no radiation of the gonads, especially when a protective screen is interposed between x-ray source and the patient's pelvis. (Fig. 9). Even when no special screening is employed, cones so limit the beam that no more than 0.001 rem or less reaches the gonads. On the other hand, use of photofluorographic techniques may give as much as 7.0 rems to the skin and 0.03 rems to the gonads and thus this method offers a small but measurable hazard which does not exist with conventional chest radiography.

It is inconceivable that a survey type of radiographic examination of the chest made at intervals of six months to a year can offer any appreciable hazard to an individual or to his descendants, provided that this is done as detailed above. On the other hand, the information derived from carefully controlled mass surveys and from clinic follow-up examinations may be so revealing and significant in spotting signs of serious disease that the vague and probably non-existent "hazard" should be no deterrent to the continuance of such programs.



Fig. 9. An old lead rubber apron fastened to the back of a chair screens the pelvis during chest radiography.

Fluoroscopic Shoe Fittings

Exposure of the feet and possibly of other parts of the body to x-radiation in such procedures as shoe-fitting seems a completely unwarranted use of radiation and has recently been outlawed in the state of Vermont.

Dental Examinations

A double hazard exists in dental offices — an occupational hazard for those working with or near dental x-ray machines and the more direct hazard to the patient.

In 1952, Nolan and Patterson[22] surveyed a number of dentists' offices in the San Francisco Bay area and found dangerous exposure of not only the operator but of receptionists and other personnel in adjacent rooms. Some of these were subject to exposure of as much as 1.0 rem per hour. Most of this was received because no filters, cones or lead screens were used and the machines were close to the exposed personnel during operation. They also found that a patient during a full-mouth examination could receive as much as 113 to 315 rems to face and neck! We have had occasion to check several dental installations in our area and in several offices obtained comparable readings. Since intensifying screens are not used for dental examinations, long exposures are the rule and most of the older machines (and a few of the new ones) use a short cone or none at all. Etter[23]

and others have found that by use of high kilovoltage, low milliamperage-second techniques, by use of long cones and added cut-out lead diaphragm with 2 mm. aluminum filter and by using new ultra-speed dental film, the radiation dose can be reduced to a value which presents little or no hazard to patients and personnel. A lead-rubber bib or apron should be used to cover the shoulders, chest and pelvis of the patient during the examination. The operator and others in the area should be protected by lead screens.

"Routine" full-mouth dental examinations should be restricted to those required by definite dental indications and children should be examined with even greater caution than adults. It seems probable that in adults, routine full-mouth examinations should be performed not oftener than once in four or five years unless dental indications are clear-cut for more frequent studies. Bite-wings or single radiographs of suspicious teeth might be used with greater frequency.

Radiation Therapy And Isotopes

The use of radiation in treatment of malignant disease need not be considered in this paper. As regards benign lesions, in view of the reports noted above regarding possible leukemogenic effects from irradiation of the spine in cases of spondylitis,[10] irradiation for treatment of benign lesions where large body areas are involved should be used sparingly if at all. To our knowledge, no evidence has been produced to date which suggests that irradiation of small areas such as the shoulder in calcareous tendonitis has been followed by malignant disease. Obviously the problem requires much more study than has been given it in the past before a judicious comment should be made regarding it.

As regards the therapeutic use of I^{131} in hyperthyroidism, it must be realized that total body irradiation is involved in its use with doses of 8 to 16 rem being received by the gonads.[4,6] It seems probable that beneficial effects comparable to those obtained from I^{131} can be obtained from closely coned x-ray in relatively small doses and with complete screening of gonads and long bones. The diagnostic use of I^{131} involves using quantities of the isotope in the order of 1/250 to 1/1000 of that used for therapy — with no radiation hazard of consequence being incurred.

Summary

In recent years we have been becoming increasingly conscious of the biological hazards of radiation whether it comes from natural background, from atomic explosions with consequent fall-out, from the peaceful uses of atomic energy or from an x-ray machine.

While recommendations of the study committees in this country and in Great Britain specifically stress the fact that necessary medical and dental dosage should not be included in computation of the maximum permissible dose of any individual, there is a clear responsibility on the parts of the attending physicians and radiologists to establish new standards for the use of x-ray and radio-active materials so that these most valuable agents will be used in the most effective and yet safest possible ways. It is up to each of us to scrutinize even more closely than in the past radiologic practices in our own departments and protective devices available and to arrange for instruction of technical personnel in carrying out those procedures which seem desirable for added protection of patients.

Regardless of any so-called "rules" which are not actually rules at all but rather guides to conduct, an intelligent and informed approach to the problem of diagnosing illness and disease will usually produce the answer in any given case as to what is safe. In the event of suspicion of serious disease, it will frequently be advisable to disregard any theoretical hazards of genetic damage by using measures deemed necessary to make a proper diagnosis and to institute treatment. *In any given case the medical judgment of the referring physician and radiologist as to what is necessary must prevail, and exposure of the gonads to radiation in excess of the MPD should not be considered as poor medical practice.*

In case of doubt as to the wisdom and safety of an examination involving the use of x-ray, it is suggested that the referring physician consult with a radiologist before ordering or performing the examination. The approximate amount of radiation to the gonads which the patient has already had can frequently be estimated and an opinion rendered regarding the safety of examinations which are contemplated in the future.

References

1. The responsibilities of the medical profession in the use of x-rays and other ionizing radiation; statement by the United Nations Scientific Committee on the effects of atomic radiation. Brit. J. Rad., 30:282-284, 1957.
2. National Academy of Sciences. The biological effects of atomic radiation: Summary reports from a study by the Academy. 108 pp. Washington, D. C.: National Research Council, 1956.
3. Idem. The biological effects of atomic radiation: Report to the public. 40 pp. Washington, D. C.: National Research Council, 1956.
4. Peterson, O. S., Jr. Radiation hazards: 1. Radiation hazards in medical practice. N. E. Jour. Med. 257:756-760, 1957.
5. Webster, E. W., and Merrill, O. E. Radiation hazards: II. Measurements of gonadal dose in radiographic examinations. N. E. Jour. Med. 257:811-819, 1957.
6. Robbins, L. L. Radiation hazards: III. Radiation protection in diagnostic procedures. N. E. Jour. Med. 257: 922-926, 1957.
7. Maximum permissable radiation exposures to man; a preliminary statement of the National Committee on Radiation Protection and Measurement. Radiology, 68:260-261, 1957.
8. Great Britain, Medical Research Council. The hazards to man of nuclear and allied radiation. 128 pp. (CMD. 9780.) London: Her Majesty's Stationery Office, 1956.

Continued on page 161

Bilateral Choanal Atresia, A Surgical Emergency In The Newborn

Rufus C. Morrow, M.D.*

Three of our cases responded well to prompt operation in the newborn stage, followed by a program of periodic dilatations and the intermittent use of polyethylene breathing tubes.

In the past few years several authors have been reviving an old warning to the effect that some cases of unexplained neonatal asphyxia have probably been due to undetected bilateral congenital atresia of the posterior nares. Earlier emphasis on this possibility was based on autopsy findings (Otto, 1829, and Ronaldson, 1881, quoted by Bienfield[1,2]). The recent surge of interest has derived from the findings of such cases, the observation of their severe respiratory distress, and the dramatic relief obtained by early corrective surgery.

Basic to a proper concern over these cases is a reemphasis on the old observations of St. Clair Thompson and others that the newborn is often unable to survive nasal obstruction, as though the infant were not instinctively aware of the simple expedient of breathing through the mouth. Observation of such infants, of which we have recently had four in the Mary Fletcher Hospital, leads one to agree with the picturesque comment of McGovern[14] that "some of these infants would just as soon die as to open their mouth to take a breath." Actually, the mechanism of obstruction may not be so elementary. Hough,[3] in 1955, described a probable sequence of events in the breathing efforts of a choanally obstructed newborn. He demonstrated by x-ray films that the tongue and floor of the mouth are sucked up against the palate on inspiration and then, on expiration, the soft palate is ballooned forward against the tongue. Evidently more than simple opening of the mouth is needed; there would have to be a voluntary control over these motions of the tongue and soft palate. Whatever the mechanism, it is clear that these children have a critical degree of dyspnea.

Choanal atresia is by no means a new subject, and much has been written about its surgical correction. Thorough reviews were set forth by Poch-Viñals and Calvo[15] in 1956 and by McKibben[13] in 1957. Nevertheless, there is a particular emphasis, perhaps too little mentioned in earlier literature, which requires repeated announcement to all those who care for newborn infants; namely, the peculiar danger in the bilateral form of the anomaly and the dramatic relief available through early surgery. It has been customary to think of the proper time for operation to be at two years of age or older.[7] This lack of emphasis, along with the fact that the majority of cases are unilateral and free of the constant threat of asphyxia, may lead some physicians to think of choanal atresia as not being a threat to life. Two dangers arise from this attitude, the failure to think of this diagnosis in cases of neonatal respiratory distress and the failure to view it with sufficient alarm when it is detected.

Although an occasional operation in the newborn for this condition has been reported in the past, as reviewed by Colver[12] in 1937, the sudden appearance in late years of increasing numbers of cases undergoing emergency surgery raises the possibility that this problem is not as rare as had been supposed. Hanckel,[5] in 1949 performed a tracheotomy in a one month old infant with bilateral choanal atresia and then on the 45th day did a surgical correction of the atresia. In 1957, together with Bates,[14] he reported another case requiring a tracheotomy on the tenth day of life, followed by later operations on the choanae. Cohen and Witchell,[8] in 1952, reported a case requiring tracheotomy. In 1954 Bienfield[9] reported a transnasal operation on an infant in the second day of life as an emergency measure to avert asphyxia. A very similar case operated on the fifth day of life, was reported by Hough[3] in 1955. In the same year, Peer[11] also described this situation and the technique of surgical correction.

Our own series of three infants with bilateral atresia, whose operations were done on the first, second, and sixteenth day of life, respectively, was published in 1957.[10] It is noteworthy that since this publication there has been a fourth case in our own experience. This infant had, in addition, multiple anomalies of the heart and great vessels and died on its ninth day. The choanal problem was fully recognized and, by constant nursing attention, oral breathing and adequate feeding were being maintained, while corrective surgery

*Division of Otolaryngology, College of Medicine, University of Vermont.

was to have been done had the infant survived its cardiac anomalies a few more days. When one considers the incidence of 4 cases of bilateral atresia with severe respiratory distress in a single hospital within three years, it is hard to think of the disease as being very rare.

Several embryological mechanisms for the development of this anomaly have been proposed.[5,13] The one which seems to be the most widely accepted is the persistence of the nasobuccal membrane, which normally ruptures in the seventh week of fetal life.[11]

Diagnosis

The clinical picture is that of obstructed breathing with varying degrees of intermittent success in getting a little air through the mouth. It is usually observed rather promptly that the infant can be kept breathing by any expedient which serves to hold the mouth open and the tongue down and forward. Feeding is extremely difficult because sucking, swallowing, and breathing cannot be carried on simultaneously. Even infants who can achieve mouth breathing are in danger of death by starvation. Once the condition is suspected the diagnosis can be clarified by attempting to pass catheters through the nasal cavities into the pharynx, and by obtaining x-ray films with the instillation of contrast media into the nostrils.

Management

Constant nursing attention is mandatory. Every breath of the infant should be supervised until adequate surgical relief is achieved. The mouth can be kept open by means of a small oral airway of the type used in anesthesia. Feedings are given by tedious administration of small amounts, or by gavage.

The surgical management is early penetration of the choanal obstruction. Tracheostomy would relieve the immediate distress but adds an additional operation since a direct attack on the choanal obstruction will be needed sooner or later. One of our cases was operated on by a transpalatal approach (Dr. William Montgomery) and the other two intranasally (Dr. Emelio Gianarelli and the author). One of these cases was not completely atretic, there being a minute opening through which a ureteral filiform bougie could be passed. The other was penetrated with a small periosteal elevator. Both were forcibly dilated by the use of graduated male urethral sounds up to No-12 French. In all three cases, once the openings were established, polyethylene tubes were passed through from the anterior nares to a pharyngeal level just below the margin of the soft palate. Initially these were retained in position by a suture through the nasal columella, but we soon realized that a more satisfactory technique was to suture the tubes to a strip of tracheostomy tape across the upper lip and to fasten this to the cheeks with adhesive tape. The tubes were suctioned frequently with smaller polyethylene tubing and were removed, cleaned, and replaced at least once daily. The parents were taught to do this suctioning and tube cleaning and, with the guidance of their local pediatrician, were able to care for the babies at home.

After the initial surgery in these infants there ensued a program of periodic choanal dilatation. Several types of dilators were used, but the most satisfactory were the graduated male urethral sounds. When there was difficulty in initiating the treatment, especially in the earlier weeks of life, the urological filiforms and Phillips followers were useful. These treatments were done at intervals of two to three weeks. As the infants grew the polyethylene tubes were replaced by standard endotracheal anesthesia tubes, cut to the desired length. A cuff of adhesive tape at the upper end of such a tube would prevent its slipping too far into the nose and we were able to dispense with the pasting of tape to the face. As the weeks passed we found that the tubes could be left out for varying periods, but had to be replaced intermittently to prevent closure of the choanal openings.

One of these children died at 10 months of age, after several neuro-surgical attempts to control hydrocephaly. Throughout these months the nasal breathing was maintained without difficulty. Another child was followed until six months of age, when the family moved to another state. At that time it was breathing well. Its dilatation treatments had been discontinued at 4 months of age. The third infant continued dilatations until 20 months of age. It is now three years old and in all respects appears to be entirely healthy. X-ray studies at the age of 23 months revealed that one side was well open and the other had reclosed. This will doubtless eventually require further surgery.

Summary

Experience with four cases of bilateral congenital choanal atresia with serious respiratory distress, together with an examination of recent medical literature, has impressed upon us the dangerous nature of this condition and the value of early surgical correction. Three of our cases responded well to prompt operation in the newborn stage, followed by a program of periodic dilatations and the intermittent use of polyethylene breathing tubes. It is hoped that this diagnostic possibility will be kept in mind as one deals with the problem of threatened neonatal asphyxia.

References

1. Beinfield, H. H.: Treatment of Complete Unilateral Bony Atresia of the Posterior Nares. Arch. Otolaryngol. 53: 530-539, 1951.
2. Bienfield, H. H.: The Unsolved Problem of Infant Suffocation, N. Y. State J. Med. 57: 3160-3161, 1957.
3. Hough, J. V. D.: The Mechanism of Asphyxia in Bilateral Choanal Atresia; the Technique of its Surgical Correction in the Newborn. South M. J. 48: 588-594, 1955.
4. Bienfield, H. H.: Surgical Management of Complete and Incomplete Bony Atresia of the Posterior Nares (Choanae). Amer. J. Surg. 89: 957-963, 1954.

Continued on page 147

Suppurative Arthritis Due To Hemophilus Influenzae

Ira H. Gessner, M.D.*

To prevent possible serious complications from delayed diagnosis and treatment, suppurative arthritis or osteomyelitis should be considered in any infant who is febrile and who is restricting the motion of an extremity.

Introduction

In 1938, Weaver and Sherwood[1] reviewed the world literature, and, including two of their own, found only 24 well substantiated cases of suppurative arthritis due to Hemophilus influenzae. A 25th case was added by Joslin and Howard in 1951.[2]

It is the purpose of this paper to report a 26th case, with emphasis on some points of management which are of importance due to recent advances in our knowledge of the chemotherapy of bacterial infections encountered in present-day practice.

Case Summary

A five-month-old white boy was admitted to the Mary Fletcher Hospital on 11/20/55, with a complaint of fever and fussiness. The infant was entirely well until three days prior to admission when his mother first noted that he seemed irritable. He was found to have a temperature of 102°F. (All temperatures in this report are rectal.) Irritability, and temperatures ranging between 102°F. and 104°F. persisted until two hours before admission, when "paralysis" and apparent pain on passive motion of the left arm were noted. There was no history of trauma, vomiting, diarrhea, or contact with infectious disease. The past history, family history, and review of systems revealed only that the patient had had a mild upper respiratory infection two months previous to hospitalization.

Examination on admission showed normal physical and behavioral development for the patient's age and sex. He weighed 6.8 kg. and measured 62.5 cm. Temperature was 102.4°F., pulse 136 and respirations 20. Positive findings were limited to the left upper extremity which was held with the shoulder slightly elevated and the arm abducted and externally rotated. The infant made little or no attempt to move the upper arm, but was able to flex the forearm at the elbow, and to grasp objects with his hand. On passive movement of the upper arm, he cried and seemed in pain. No local areas of redness or swelling were noted. No signs of meningeal irritation could be elicited.

Initial laboratory findings were as follows: hemoglobin 10.4 gm., RBC 4,080,000, hematocrit 30, WBC 15,000 with a differential of 58 neutrophils, 9 stab cells, 30 lymphocytes and 3 monocytes, erythrocyte sedimentation rate 25mm./hr., corrected (Wintrobe method), VDRL negative. Urinalysis showed a slight trace of albumin, but was otherwise normal. Throat culture grew Streptococcus viridans, and three blood cultures taken during the first 12 hours showed no growth after 14 days. Cerebrospinal fluid showed 3 WBC/cmm., a total protein of 21 mg./100 ml., and no growth on culture.

Radiographs of the left upper arm taken the day following entry demonstrated marked soft tissue swelling about the left shoulder but no disruption of the bony trabecular pattern. Twenty-four hours after admission, the patient was started on erythromycin, 100 mg. p.o. every six hours. By 48 hours after admission the temperature had risen to 104°F., and the left shoulder area had become indurated, swollen, warm and reddened. Another blood culture was drawn, the erythromycin dosage was doubled, and aqueous crystalline penicillin, 100,000 units im. every two hours for 12 doses was added. The baby continued to eat well and his weight remained stable.

The temperature dropped on the 3rd day, but rose again to 105°F. on the 4th day when the infant had 7-8 loose yellowish-brown stools. The erythromycin was then changed to 75 mg. im. every six hours, and penicillin was resumed in dosage of 200,000 units im. every four hours. Another blood culture was taken, which was reported after 14 days as showing no growth.

On the 5th day, the temperature was down to 100.4°F., but the left shoulder continued tender, swollen and tense. The 4th blood culture, taken on the 2nd day, was reported positive for H. influenzae, type B, so all previous antibiotic therapy was discontinued, and the baby was placed on chloramphenicol, 250 mg. p.o., every six hours. Radiographs of the left shoulder were re-

*Department of Pediatrics, University of Vermont College of Medicine and from The Department of Pediatrics, Mary Fletcher Hospital, Burlington, Vermont.

peated, and these showed slightly greater soft tissue swelling, but no bony involvement.

Within 24 hours after beginning chloramphenicol therapy, the baby showed marked clinical improvement for the first time. The swelling about the left shoulder had greatly subsided although there was still some tenderness and induration. His temperature was stable at 98.6°F., and he continued to eat well. By evening of the 7th day, however, the infant became irritable, and on the 8th day, began to have multiple, large, loose, greenish stools. This was interpreted as being due to the chemotherapy, but because of its importance, the chloramphenicol was continued, its administration being changed to 175 mg. im. every six hours. Stool culture showed predominantly Proteus with a moderate number of coliform organisms. The patient's temperature remained normal and there was no longer any apparant pain on movement of the left upper extremity.

By the 9th day, the baby's weight had dropped 450 gm. in the preceeding 36 hours. Kaopectate® failed to halt the diarrhea, but he continued to eat fairly well until the 12th day, when he became increasingly irritable and refused his diet. His temperature rose to 100.4°F., he passed frequent liquid stools, and he showed clinical and laboratory signs of dehydration and electrolyte imbalance. Oral feedings were stopped and appropriate intravenous fluids given. The left shoulder showed no swelling, tenderness, or pain on passive motion, but some voluntary restriction of motion remained.

On the 13th day, the chloramphenicol was discontinued, and on the 14th day the infant was greatly improved. His temperature was normal and the diarrhea had almost completely subsided. Intravenous fluids were stopped and oral feedings given. By the 15th day, stools were normal and he was gaining weight. He acted happy and his left shoulder was entirely normal. Stool culture showed two varieties of Proteus only.

Bilateral shoulder radiographs taken on the 16th day revealed no abnormalities. The infant was returned to a whole milk formula and discharged recovered on the 17th hospital day. A follow-up examination seven weeks after discharge revealed no evidence of deformity or limitation of active or passive motion. The left shoulder was carried higher than the right, with the baby in a sitting position, but his mother remarked that his father also demonstrates an identical elevation of the left shoulder. Growth and development showed normal progression and radiographs of both shoulders were normal. The patient's mother reported 2 years later that the shoulder was perfectly normal.

Discussion

Once localizing symptoms appear in a joint, the diagnosis of infectious arthritis presents only the problem of identification of the etiologic organism through culture of joint fluid or of blood. Since secondary contamination with antibiotic resistant organisms may result from diagnostic or therapeutic aspirations of joint fluid, it is the author's opinion that such aspirations should be reserved for those few cases which fail to respond to well-chosen antibiotic treatment, *and* in which a positive blood culture is not obtained.

To prevent possible serious complications from delayed diagnosis and treatment, suppurative arthritis or osteomyelitis should be considered in any infant who is febrile and who is restricting the motion of an extremity. The limb, although seemingly painful when moved, may exhibit no external evidence of disease in its early stages. Although there is usually infection present elsewhere in the body,[3] especially in the upper respiratory tract, this is not always demonstrable, as in this case. It is of interest that 12 of the 25 previously reported cases of H. influenzae pyarthrosis accompanied meningeal infection with the same organism.[2]

As soon as the offending organism in this case was identified as H. influenzae, therapy was begun with chloramphenicol, and clinical improvement of the joint signs was coincident with the use of this drug. The local physical signs of arthritis had progressed steadily while the patient was receiving erythromycin and penicillin, indicating at least a relative lack of effectiveness of these antibiotics against the infection. The efficacy of chloramphenicol in the treatment of H. influenzae infections has been repeatedly reported in the literature and this point needs no amplification.[4,5,6]

The employment of a broad spectrum antibiotic initially in all cases of suppurative arthritis has been recommended.[3] Staphylococcus, streptococcus, and pneumococcus are the usual causative organisms of suppurative arthritis, while the meningococcus, gonococcus, influenza bacillus, typhoid bacillus and salmonella group, all gram negative bacteria, account for the vast majority of the remainder.[3] Both in vitro and in vivo experiments have shown chloramphenicol to have significant antimicrobial activity against all these organisms.[7,8,9] In the choice of an antibiotic for a child with symptoms suggesting suppurative arthritis or osteomyelitis, and where an exact bacteriologic diagnosis has not yet been made, the significant number of these infections caused by drug-resistant staphylococci is a prime consideration. It is essential to use an antibiotic which has real likelihood of effectiveness against the strains of hemolytic Staphylococcus aureus encountered today, while also providing a high degree of protection against the other bacteria which commonly cause suppurative arthritis or osteomyelitis. Chloramphenicol has been shown to be a drug which satisfies these criteria better than erythromycin or other broad spectrum antibiotics in widespread use.[7,10] Therefore, it is the logical drug of choice for serious infections which may be due to a variety of bacterial organisms including the staphylococcus.

Although the diarrhea in this case can not be conclusively shown to be due to chloramphenicol, it was the distinct impression of all observers connected with the patient, that the enteritis was related to the use of this

drug. Cessation of the diarrhea did not occur even on parenteral fluids, until chloramphenicol was discontinued. The diarrhea was of such eventual severity, that the antibiotic was stopped a full week before the planned course of treatment had been completed.

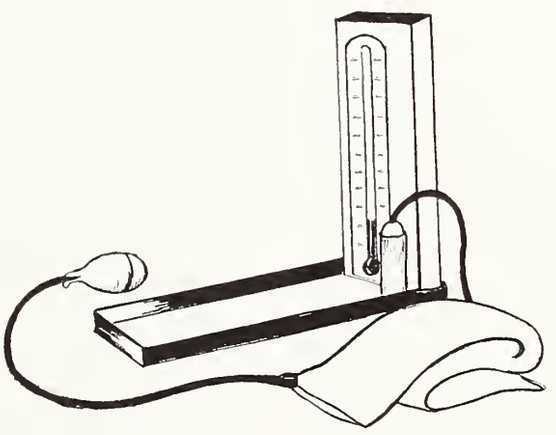
The occurrence of a complicating diarrhea during therapy with chloramphenicol has been reported previously.[5,11] Depression of the normal bacterial flora of the intestinal tract, allowing the emergence of a resistant pathogenic organism, (in this case, Proteus), is a recognized risk inherent in treatment with broad spectrum antibiotics. When the problem arose in this case, general supportive measures were employed and, as has been reported by others,[5,11] on cessation of the drug the stools rapidly returned to normal.

Summary

A case of suppurative arthritis of the left shoulder joint, caused by Hemophilus influenzae, type B, and successfully treated with chloramphenicol, is presented. The factors of early recognition of the disease, use of chloramphenicol as initial therapy, and the occurrence of a complicating enteritis are discussed.

References

1. Weaver, J. B. and Sherwood, Loraine: Hematogenous pyarthrosis due to Bacillus Hemophilus influenzae and Corynebacterium xerosis. Surgery 4: 908-913, 1938.
2. Joslin, B. S. and Howard, Ann: Hemophilus influenzae pyarthrosis and meningitis treated with aureomycin. J. Pediat. 38: 375-379, 1951.
3. Nelson, W. E.: Testbook of Pediatrics. W. B. Saunders Co., Philadelphia. 1954, 6th edition, p. 1340.
4. Deane, G. E., Furman, J. E., Bentz, Alice R., and Woodward, T. E.: Treatment of meningitis with chloromycetin palmitate. Pediatrics 11: 368-380, 1953.
5. McCrumb, R. R. Jr., Hall, H. E., Imburg, J., Merideth, Ann, Helmhold, R. M., Sgt. U. S. Army, Basoray Defillo, J., and Woodward, T. E.: Treatment of Hemophilus influenzae meningitis with chloramphenicol and other antibiotics. J.A.M.A. 145: 469-474, 1951.
6. Prather, G. W., and Smith, Margaret H. D.: Chloramphenicol in the treatment of Hemophilus influenzae meningitis, J.A.M.A. 143: 1405-1406, 1950.
7. Welch, H., Randall, W. A., Reedy, R. J., and Kramer, J.: Bacterial Spectrum of erythromycin, carbomycin, chloramphenicol, aureomycin and terramycin. Antibiotics and Chemother. 2: 693-696, 1952.
8. Hewitt, W. L. and Williams, B. Jr.: Chloromycetin (Chloramphenicol) in the treatment of infections. New England J. Med. 242: 119-127, 1950.
9. McLean, I. W., Jr., Schwab, J. C., Hillegas, A. B., and Schlingman, A. S.: Susceptibility of micro-organisms to chloramphenicol. J. Clin. Invest. 28: 953-963, 1949.
10. Fusillo, M. H., Roerig, R.N. Lt. Col. M.S.C., Metzger, J. F. Capt. M. C., and Ernst, K. F. Col. M. C.: Phage typing antibiotic resistant staphylococci. Am. J. Pub. Health 44: 317-322, 1954.
11. Turell, R. and Maynard, A. deL.: Anorectocolonic side-effects of antibiotic therapy. J.A.M.A. 156: 217-220, 1954.



Management Of Cavernous And Capillary Hemangiomata

O. S. Peterson, Jr., M.D.*

. . . we shall attempt to emphasize certain observations of importance to the general practitioner and outline a rational approach to disposition of those cases most often encountered by the family physisian.

Medical literature contains many articles dealing with treatment of hemangiomas and it would serve no useful purpose to attempt a review of such literature. Oftentimes these lesions are indiscriminately treated without regard to the stage of natural progression or regression. Many good results reported undoubtedly merely reflect the natural history of these lesions. On the other hand, there is current among many physicians an attitude that none of these lesions should be treated. For reasons which we shall mention later we do not subscribe completely to either attitude. Rather, we shall attempt to emphasize certain observations of importance to the general practitioner and outline a rational approach to disposition of those cases most often encountered by the family physician.

We will deal only with the lesions most frequently observed in children. These are the capillary and cavernous lesions, and the port-wine stains. There is variation in systems of classification and nomenclature. However, these are descriptive clinical terms which are quite generally recognized. Clinically, the first two are often difficult to separate and merge one with the other. Microscopically, the term cavernous is employed in describing those lesions with component vessels more dilated than in the case of the so-called capillary type. These two lesions are often referred to as strawberry marks, or by other descriptive terms.

The port-wine stains occur less frequently than do the strawberry marks, although if one includes under this name the pale stains so often seen in the occipital, glabellar and eyelid areas, then the incidence rises considerably. These latter lesions usually disappear spontaneously without residual mark, although occasionally a very pale tan discoloration may persist. The port-wine stain has no demonstrable depth above or below the skin and the intensity and shade of the red discoloration may vary considerably. These lesions, with the exceptions above noted, do not ordinarily regress, nor are they amenable to any known treatment short of plastic surgery.

Thus we will limit our present discussion to the common capillary or cavernous hemangiomas, also called strawberry marks.

These lesions very frequently are not apparent at birth, or if so, appear as minute red punctate spots. They usually are first noticed during the first two weeks of life and grow quite rapidly. Their natural history is that of early rapid growth which continues over a variable period of weeks or months, and is then followed by very slow regression and finally complete disappearance without residual, provided they have not been traumatized, injudiciously treated, or infected. Transient changes in size may occur from day to day, or more frequently. Changes in vascular and intra-abdominal pressure, such as when an infant cries, will often be reflected in a larger more tense and prominent lesion. Complete regression and disappearance oftentimes does not occur until the fifth or sixth year, and occasionally later.

It is important to recognize the early signs which signal beginning arrest or regression. These are as follows. A dusky rather than bright red color. When viewed at a low incident angle to the surface, with incident light also at a low angle, lesions which are regressing or have ended rapid growth will show a soft satin-like or light powdery pale sheen on the surface. Later, there will occur a definite, often reticular, paling of the surface demonstrable in any light. Still later, the ratio between the pale surface and the red will increase until only a peripheral ring or rim remains. The changes in color and texture usually antedate any appreciable shrinkage in total volume of the lesion. This is especially true in the case of cavernous lesions with relatively large subcutaneous components.

The very earliest regressive changes, as suggested above, are rather difficult to describe, but once recognized can be readily identified if present in a particular lesion. These changes may occur quite early, in

*Associate Professor of Radiology, College of Medicine, University of Vermont.

which case the lesion will not reach any large size. However, a certain proportion very rapidly grow to quite a large size before starting to regress, and herein lies the problem for the family physician and parents. Neither rapidity of growth nor ultimate size before regression starts can be predicted on the basis of early appearance. Rapidly growing lesions are more intolerant of minor trauma, which oftentimes will initiate a sudden distressing massive necrosis, even though there does not appear to be any appreciable infection. On the other hand, these same lesions also appear to be more prone to infection as a result of minor abrasions. It is our impression that such situations are quite painful and sore.

Rapid disappearance or regression of the lesion usually follows such an accident, but with resultant unsightly fibrosis, scarring, and discoloration which remains as a permanent cosmetic defect. Injudicious or improper employment of cryotherapy or radiation therapy will also end in poor cosmetic result.

In the case of a lesion first seen after evidence of regressive change is already apparent, the parent should be firmly advised to have nothing done. Oftentimes it is essential to spend considerable time in careful explanation of the natural history of these lesions and the reason for the advice to do nothing. To arrange for repeated follow-up visits and re-evaluation is reassuring to the parent, and usually such an arrangement is gratefully accepted.

If one could predict very early which lesions would regress without attaining large size, then obviously treatment of such would be merely meddlesome. However, such is seldom the case and we believe that treatment which is simple and safe should be applied to these earliest lesions as soon as discovered.

If the total thickness of the lesion does not exceed two millimeters, or can be compressed to one millimeter or less, then cryotherapy with dry ice is a satisfactory method of treatment. The area is first cleansed with soap, water and alcohol. If the area involved is not over one centimeter in diameter, the entire depth of the lesion should be frozen with the stick of dry ice applied with firm pressure for approximately twenty seconds. No anesthesia is employed. Immediately after treatment a light dry dressing is applied to protect the area from trauma. In some instances a small blister will soon develop. This should not be tampered with, but rather the epithelium beneath should be allowed to regenerate under the protection of such blister. If the total area has a diameter much greater than one centimeter, then individual areas of approximately one square centimeter should be treated separately. Two such areas if non-contiguous may be treated at one session, but full healing of these should be accomplished before proceeding to the next area. Peripheral areas should be treated first.

Some atrophy of the skin in the treated site may persist after such treatment, but in the majority of cases the site of the lesion will eventually appear entirely normal. Many months may be required before the hemangioma completely disappears. Cryotherapy should not be repeated.

If cryotherapy is attempted on a lesion which is too thick, results will be unsatisfactory, and it has been our observation that such ill-advised treatment results in a dirty grey or yellowish atonic and rather redundant skin overlying the persistent mass of hemangioma. The latter usually disappears after a few years, but the skin change is permanent and unsightly.

Relatively thin lesions as described above are also suitable for treatment by carefully applied radiation. In those lesions which can be compressed to less than one millimeter we find a Strontium-90 applicator very useful. Here also, firm compression should be employed and the dose limited to slightly less than an erythema. With our own particular applicator we find a dose at the surface of approximately 800 beta equivalent roentgens to be satisfactory.

This latter type of treatment seems to nudge the lesion over into a natural regression which is slower than that following cryotherapy, but the final results, even years later, are better than those often achieved by cryotherapy. We have never observed any objectionable late atrophy or telangiectases after such treatment.

With lesions greater than two but less than six millimeters in thickness, where treatment is indicated, we prefer gamma radiation from radium. The distance between the radium and the surface, as well as the base of the lesion, is accurately adjusted so that a minimum of 400 gamma roentgens is administered to the base, while less than 750 gamma roentgens is administered to the surface. This latter value is approximately 75% of an erythema dose for small areas. Such treatment should be undertaken only by a physician able to calculate these values accurately.

For these intermediate size lesions the use of gamma radiation from radium or cobalt is the safest method of radiation treatment by reason of several facts. No anesthesia is required. The relationship between source and lesion can be easily and accurately maintained since the mold or applicator is fixed, usually with firm adhesive plaster tape, directly to the anatomy. Any who have tried to hold a squirming infant quiet and in accurately maintained relationship with some fixed point will immediately appreciate this. Finally, the short distances between source and lesion mean that volume doses are kept very low and radiation to distant portions of the anatomy is negligible. Certainly skill and care is always required, but we do not hesitate to treat, for example, on the face and quite close to the eye. In recent years we have refrained from using radium for lesions much below the umbilicus or above the knees in the case of male infants, or directly over the lower abdomen or pelvis of females.

For lesions greater than approximately six mm in thickness the necessary distance between the surface and the source becomes so great that we prefer an x-ray tube as the source. This of course means elaborate shielding and usually anesthesia. Furthermore, where possible, the

closely collimated beam is directed tangentially through the lesion to minimize volume dose and effect on tissues beneath. Dosage here also is adjusted to less than an erythema.

Under no circumstances do we repeat any type of radiation treatment within less than three months. If at the end of such an interval there still is no evidence of early arrest or regressive changes, the treatment may be repeated. This is seldom necessary.

If radiation doses are kept to well under an erythema and not repeated more than once, no late radiation skin changes will result. When reviewing the literature describing late radiation sequelae it is apparent that doses employed were considerably in excess of those here recommended.

Summary

Capillary and cavernous hemangiomata in early infancy and before such lesions have attained a large size are amenable to simple safe treatment by cryotherapy or ionizing radiation.

Because eventual size and possible complications in untreated lesions cannot be predicted, early treatment is justified.

Methods of treatment have been described with optimum doses consistent with safety and good late cosmetic results.



Suicide In Vermont — 1957 Pattern

Richard S. Woodruff, M.D.*

During the calendar year of 1957 there were 55 deaths by suicide reported in the State of Vermont to the Bureau of Vital Statistics. On 45 of these, the Office of the State Pathologist received detailed reports from the medical examiners of the state. In six of these 10 cases not reported to us, the State Police investigated the deaths. The following survey is based on the information derived from the 51 cases reported to this office and to the State Police.

The total of 55 suicides in 1957 in a state with a population of approximately 378,000 persons is rather high. This places Vermont as having nearly the highest, if not actually the highest, rate for any state in the United States. For many years now, Vermont has held this unenviable position, though it appears that, at least during the past year, the state has improved its position somewhat in that the number of suicides reported this year is two below those of 1956 with a population remaining relatively stable in numbers. However, it cannot be said that the improvement is significant.

The question most often asked of this office is "Why do people commit suicide"? This poses an extremely difficult question to answer because of the variability of factors involved and also because of lack of complete information concerning the deceased individuals. However, an attempt will be made here to formulate an answer to this question from an evaluation of the detailed reports on the 51 cases sent in by the medical examiners and by the State Police.

In 33 cases the cause listed as being responsible for the act was mental depression. The known or probable reason for the state of depression was ill health in the deceased in 10 cases, three of whom suffered from incurable cancer and one from frequent epileptiform attacks. In two cases it resulted from ill health in the family; in four cases it followed constant family discord; in three cases severe alcoholism; in one case drug addiction, and in one other case senile dementia. The remaining cases in this category comprised two cases where the deceased felt they were a burden to their families, two cases of refugees from Soviet satellite countries who were unable to return to their native land, five cases of individuals on leave from mental institutions and three cases where there was no apparent reason for the depression.

Of the remaining 18 cases, the apparent reasons for the act were varied. These were one case each of acute intoxication while in confinement, paranoia (Manic-depressive) and schizophrenia. Seven cases were listed as due to emotional instability of which one was in a 17-year-old boy who had suffered a reprimand from his parents. Four cases, all males, were the result of financial difficulties which included embezzlement, swindling, forgery, and business failure. In the remaining four cases, no reason for suicide could be determined.

The overall picture of this survey, then, indicates that the majority (43) of the 1957 suicide victims were suffering from either mental disease or serious emotional upsets at the time they committed the act. The factors responsible for the disease or emotional instability could be reasonably evaluated in all but three of these 43 cases.

Of further interest is the fact that six of the 51 suicides occurred in individuals who were not native Vermonters and that two of these traveled to Vermont from a neighboring state apparently with the intent of committing suicide within the State of Vermont.

In Table I is shown the case break-down by age group and sex.

It will be noted that male suicides outnumbered female suicides in a ratio of four to one. The only two adolescent suicides in the series were males. The greatest number of cases in both sexes occurred in the 41-60 year age group, with the 61-80 group being second. Only 25% of all the cases were in individuals under 40 years of age. From this survey it may be construed that males in Vermont are more prone to suicidal acts than are females.

*Vermont State Pathologist, Assistant Professor of Pathology, University of Vermont College of Medicine.

TABLE I

Age Group	*11-20*	*21-30*	*31-40*	*41-50*	*51-60*	*61-70*	*71-80*	*Total*
Males	2	2	7	8	10	5	7	41
Females	0	1	1	2	4	2	0	10
TOTAL	2	3	8	10	14	7	7	51

TABLE II

	Jan.	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Total*
Firearms	3	2	1	0	1	1	3	1	2	3	5	3	25
Hanging	0	1	1	0	1	0	1	0	0	2	2	0	8
Carbon Monoxide	0	0	1	0	0	0	0	1	2	2	0	0	6
Drowning	0	0	0	0	0	1	0	0	1	1	0	1	4
Barbiturates	0	0	0	0	1	1	0	0	0	0	0	0	2
Fall from height	1	0	0	0	0	0	0	0	0	0	0	0	1
Poisoning (Phosph)	0	0	0	1	0	0	0	0	0	0	0	0	1
Slashing by sharp instrument	0	0	0	0	1	1	0	0	1	0	0	0	3
Struck by train	0	0	0	0	0	0	1	0	0	0	0	0	1
TOTAL	4	3	3	1	4	4	5	2	6	8	7	4	51

In Table No. II is shown the break-down of the cases as to the method used to commit suicide and the month in which death occurred.

Table II illustrates that suicide by firearms was the method of choice with hanging occurring second, asphyxiation by carbon monoxide third and that barbiturates occupied a minor position in the scale. Furthermore, almost twice as many suicides occurred in the second half of the year as in the first half.

Analyzing the cases as to locale the majority of the suicides in 1957 occurred in populated areas and not in the isolated portions of the state. The five most heavily populated centers in the state accounted for over half of the total number of cases. This distribution would seem to mitigate against the assumption made in the past by some psychiatrists that one of the major causes of suicide in this state was because the populace was isolated and that the suicides occurred largely in rural areas where the people could not obtain psychiatric treatment for mental or emotional disorders.

It would also seem that the rigors of Vermont winter or isolation might not be a major factor as more suicides took place during the warmer half of the year than during the more frigid half.

An attempt was made to estimate if a state of poverty could be considered a possible factor in any of these cases but in none of them did this seem to enter into the picture. The few individuals who had been receiving financial aid from families or community sources were known never to have complained of lack of money and were felt by those who knew them well to be satisfied with their economic status. The four cases who were known to be in financial difficulties had been living in a moderately affluent manner up to the time of death and three of these four were in the process of being prosecuted for obtaining money illegally; so it was felt that their suicides could be attributed to their unlawful acts and not because they were poverty stricken.

Summary

1. Fifty-one cases of suicide in Vermont in 1957 reported by medical examiners and State Police were studied.

2. Tabulation was made to demonstrate numbers of cases by sex, age, month of the year and method employed in commission of the act.

3. An attempt was made to assign probable reason for suicide in each case.

Conclusions

1. The suicide rate in Vermont is unusually high.

2. Many more males commit the act than females.

3. The majority of cases in both sexes occurred in the 41-60 age group.

4. The majority of cases occurred in the second half of the year.

5. The greater number occurred in the warmer six month period than in the colder six month period.

6. The apparent reasons for the act were varied but mental depression as a result of various factors and other mental illnesses accounted for 43 out of the 51 deaths.

Vermont's Many-Pronged Attack On Chronic Illness And Disability

Robert Pease Smith, M.D.*

Of great interest to the State of Maine, because it will send students to our school, will be the integration of this rehabilitation program with the teaching program of the University of Vermont, and especially of its College of Medicine.

Small states can sometimes do things which large states would have difficulty accomplishing. Vermont has been able to rise as a unit, co-operating in many different directions, in a complex but unified attack on chronic illness and disability.

Faced with an aging population with numerous people young and old who had disabilities resulting either from injury or from illness, Vermont attacked its problem wholesale. With the backing of several State Departments, Vermont was able to launch a statewide survey under its Commission for the Chronically Ill and Aged, which sought to evaluate the problems and outline a program of attack. Carried on under rigid professional supervision, and enlisting the services of over a thousand people, this program involved many different techniques from the doorbell ringing of a house to house survey to the checking of hospital censuses to find who those patients were and what their problems might be. As a result of this survey, a program was outlined which is well on the way to realization through the co-operation of many agencies and two legislatures.

This description can trace only a skeleton of the entire picture. Fundamentally, the Commission recommended that long-term care be administered as near the patient's home as possible. However, to add the very large element of hope and accomplishment which were essential to the success of the program, a rehabilitation center serving the state was recommended. This would bring into the state various skills needed for overcoming disability and make them available for patients in every part of the state.

*Director, Vermont Rehabilitation Center, DeGoesbriand Memorial Hospital, Burlington.
Director, Division of Rehabilitation, Department of Preventive Medicine and Instructor in Medicine, College of Medicine, University of Vermont.
Member Vermont State Commission for the Chronically Ill and Aged. 1953-1955.
Former Consultant Physician and Medical Advisor, Vermont Alcoholic Rehabilitation Commission.

The program, as it is shaping up at the present time, would look in essence like this:

Prevention

The Health Department has organized a Chronic Illness Division, which will send speakers around the state to discuss chronic illnesses and their prevention. The Health Department looks forward to organizing case finding techniques and hopefully a system of transportation for these patients. Certain specific surveys may be worked out. Its Crippled Children's Division found several ways it could help develop proper facilities.

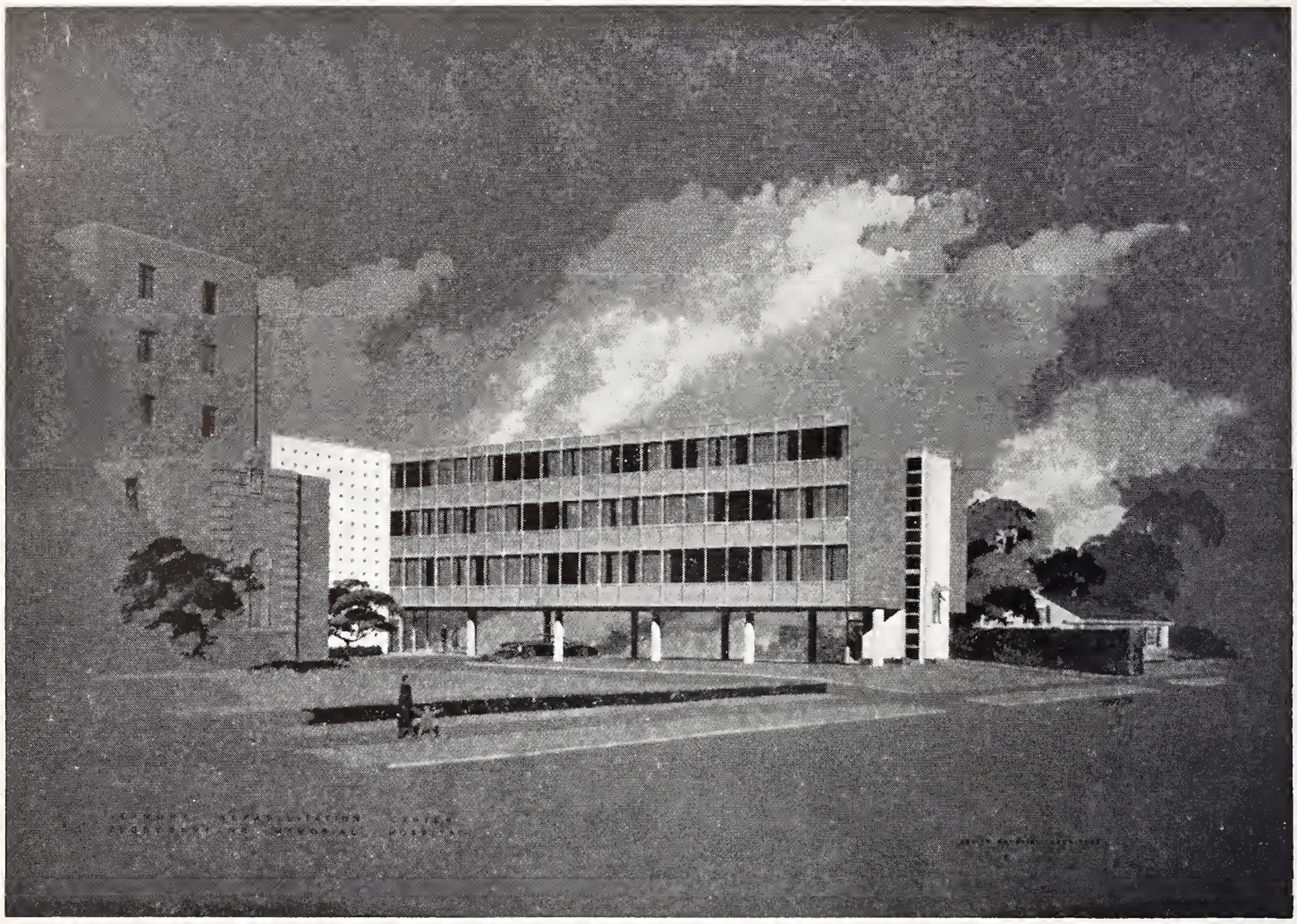
As a simple way of finding out who is disabled in the state and what kind of disability he has, the applicants for Total and Permanent Disability in the Department of Social Welfare are being codified for medical diagnosis and these statistics will be evaluated.

Rehabilitation Of The Physically Ill

As mentioned above, long-term care will take place in the local hospitals. Several of these have used their Ford Foundation money to develop new physical therapy departments and in three areas specific long-term care facilities are being developed in order that the patients may receive treatment as near their home and friends as possible.

Beyond this the State's County Poor Farms are being turned into municipal nursing homes aimed at rehabilitation. This means that what was formerly an institution without hope, an institution symbolizing total defeat of the individual, has now been turned into an institution which is something of a way-station, making every effort to get the patient back into full activity again.

Central to this entire program is Vermont's Rehabilitation Center, a three story building developed through appropriation of $325,000 by the Vermont State Legislature, and additional Hill-Burton Act funds from the Federal Government. This is a Center which decentralizes. It operates quite differently from a big city center in that the patient will come in for evalua-



VERMONT REHABILITATION CENTER

tion and receive such treatment there as cannot be received nearer home, but then will return as near home as possible to carry out his program under the eye of his family doctor with periodic returns to the Rehabilitation Center for evaluation of progress and revisions of the Program. Administered by the DeGoesbriand Memorial Hospital in Burlington, this Rehabilitation Center has a broad and versatile selection of medical specialists who can be drawn into the program as needed. Fundamentally, the services supplied by the Center are those of the physiatrist, psychiatrist, social worker, clinical psychologist, speech and hearing pathologist, physical therapists, occupational therapist, rehabilitation nurse and vocational counselor. The Center already operates a well-equipped Speech and Hearing Unit.

One of the services of this Rehabilitation Center will be a Cardiac Work Classification Unit subsidized by the Vermont Heart Association. This Unit, aside from supplying service to some of the neediest of the cardiac patients, will help to identify the obstacles to full employment for heart patients in the Vermont area. It is also a vivid teaching device.

Children's rehabilitation is performed by the Vermont Association for the Crippled, an Easter Seal Organization in Rutland, which for ten years has been serving children up to twelve with clinic facilities in several parts of the State. It has an evaluation clinic in Burlington.

Sheltered Workshop

Vermont Sheltered Workshops, Inc. has opened a subcontracting plant in the center of the State, moving to Montpelier, and in this situation, patients will be evaluated as to their ability to perform before they are sent back into regular employment.

For those who are confined to their homes, the Industrial Homework Office has been organized through a combination of State agencies. It carries subcontracting jobs into the homes of the patients.

Mental Illness

Rehabilitation Houses: Under our foresighted Division of Vocational Rehabilitation, several homes for the mentally ill have been formed where the patients begin their return from the State Hospital to normal existence in a semi-protected environment.

Alcoholic Rehabilitation Commission

Alcoholics have been treated by a large and vigorous organization with centers in many parts of the State. The Vermont Alcoholic Rehabilitation Commission

which has been working with excellent effect over the last five or six years. This unit underwrites thorough medical and psychiatric evaluation of these patients and helps them in their battle with this discouraging disease, then it helps them obtain and hold employment.

Of great interest to the State of Maine, because it will send students to our school, will be the integration of this rehabilitation program with the teaching program of the University of Vermont, and especially of its College of Medicine. The Vermont Rehabilitation Center is being built in Burlington in connection with the College of Medicine, and a curriculum in rehabilitation is being built up in all four years of the medical school course. Case material is being related to as many of the pre-clinical courses as possible in order to satisfy the hunger of pre-clinical students for actual human problems and to let them see how the theoretical concepts they are learning will later be applied to their work.

In addition to this, a Geriatrics Teaching Program is being organized to show the medical students how aging affects medical care and the character of disease. This teaching program is based on the belief that Geriatrics should not be a medical specialty, but should be part of the experience of every doctor trained in a college of medicine. For this purpose numerous facilities are being developed and being drawn together.

A course in Rehabilitation Nursing is being added in both nursing schools in Burlington.

A program is under way with the University of Vermont for setting up a training program for Speech and Hearing therapists in the Speech Department.

Beyond these are two more hopes. One is that an affiliation will be worked out with the University of New Hampshire for the occupational therapists which they train, and second, that a physical therapist training program can be developed at the University of Vermont using the Rehabilitation Center facilities.

Research

In connection with these programs, the College of Medicine is embarking on several programs of research related to chronic illness and to aging. National Institute of Health funds have lately been authorized to place a research floor on top of the Rehabilitation Center.

Summary

Forced by economic necessity to face a very large problem of chronic illness and disability scattered through a mountainous rural state, Vermont has embarked as a unit on a very complex but integrated program for overcoming this obstacle. The program is based on the New England principle of helping the patient help himself.

I would like to acknowledge with gratitude the assistance of Miss Veronique Gassette, Division of Vocational Rehabilitation in preparing this paper.

BILATERAL CHOANAL ATRESIA — *Continued from page* 136

5. Hanckel, R. W.: Bilateral Choanal Atresia. Ann. Otol., Rhinol. and Laryngol. 58: 852-867, 1949.
6. Kazanjian, V. H.: The Treatment of Congenital Atresia of the Choanae. Ann. Otol., Rhinol. and Laryngol. 51: 704-711, 1942.
7. Cinelli, A. A.: Traumatic and Caustic Injuries of the Mouth and Pharynx; Otolaryngology, Vol. 4, Chapter 11, W. F. Prior Co., Inc., Hagerstown, Md., 1955.
8. Cohen, H. J. and Witchell, J. S.: Bilateral Congenital Choanal Atresia in Newborn. Am. J. Dis. Child. 83: 328-332, 1952.
9. Beinfield, H. H.: Bilateral Bony Atresia of the Posterior Nares in a One-month Premature Infant Who Survived. J. Pediat. 45: 679-687, 1954.
10. Morrow, R. C.: Bilateral Congenital Choanal Atresia: A Report of Three Cases Corrected Surgically in the Newborn. Ann. Otol., Rhinol. and Laryngol. 66: 135-138, 1957.
11. Peer, L. A.: Congenital Anomalies of the Nose and Sinuses; Otolaryngology, Vol. 3, Chap. 4; W. F. Prior Co., Inc., Hagerstown, Md., 1955.
12. Colver, B. N.: Congenital Choanal Atresia; Two Cases of Complete Bilateral Obstruction, Ann. Otol., Rhinol. and Laryngol. 46: 358, 1937.
13. McKibben, B. G.: Congenital Atresia of the Nasal Choanae. Laryngoscope 67: 731-755, 1957.
14. Hanckel, R. W. and Bates, G. W.: Bilateral Choanal Atresia. So. Med. J. 50: 1054-1056, 1957.
15. Poch-Viñals, R. and Calvo, R. R.: Choanal Atresia, an Embryological, Clinical, and Therapeutic Study. Trans. Am. Acad. Ophth. and Otol. 63: 559-575, 1956.

96 Colchester Avenue, Burlington

metaphosphate produced markedly higher blood levels than capsules containing either the corresponding base or the hydrochloride alone. In addition, the average levels derived from the tetracycline base or the chlortetracycline base were higher than those produced by the corresponding hydrochloride though lower than those resulting from the mixture containing the base and sodium metaphosphate. In the study with chlortetracycline[6] capsules containing a mixture of the hydrochloride and sodium metaphosphate were also included in the crossover, and the average levels produced by these capsules were the same as with the mixture of chlortetracycline base with sodium metaphosphate.

Although the enhancement of blood levels of tetracycline by phosphate, either complexed to the tetracycline or mixed with the base or the hydrochloride, thus seemed fairly well established, some doubts still remained because certain reliable observers (including many whose results have not been published) failed to confirm the findings with the materials and methods they used. Further confusion seemed to be added by a subsequent report of Welch et al.,[7] who, in repeating a crossover study with capsules of tetracycline phosphate complex and tetracycline hydrochloride with and without sodium [illegible] phate, found [illegible]

"...Tetracycline hydrochloride and citric acid, in an encapsulated mixture, produced higher serum concentrations and greater urinary excretions, and hence better absorption of tetracyclines, than any other preparation studied..."

[illegible] addendum to the last mentioned paper of [illegible]ch et al.[7] indicates that in their study the capsules of tetracycline hydrochloride, chlortetracycline hydrochloride and tetracycline phosphate complex all contained dicalcium phosphate as a filler, whereas the capsules containing citric acid and sodium hexametaphosphate did not contain any dicalcium phosphate. This could clearly explain the discrepancies noted in that study. Likewise, the inconsistencies in other studies may very well have been due to the presence of calcium as fillers in some of the capsules and not in others.

This, however, fails to explain the most recent findings of Welch and Wright,[10] who compared the absorption of three capsules, each containing 250 mg. of oxytetracycline hydrochloride — one without any adjuvant, one with 250 mg. of citric acid and the third with 380 mg. of sodium hexametaphosphate; no other filler was contained in any of these capsules. In triple

[illegible] [illegible] [illegible] [

crossover studies, they as
lected one, three and six
found that sodium hexa
average serum concent
three hours, whereas
average levels of oxyte
tested.

1. Eisner, H. J., Stirn, F.
Enhancement of serum
J. Pharmacol. Exper. &
2. Kaplan, M. A., Dichison
F. H. New, rapidly absor
biotic Med. & Clin. Therap.
3. Welch, H., Lewis, C. N., St
concentrations of three tet
single oral dose in man.
222, 1957.
4. Pulaski, E. J., and Isokane
blood serum, bile, and pre
ministration of tetracycline
drochloride. *Antibiotic Me*
5. Welch, H., Wright, W.
blood concentrations follo
hydrochloride, tetracycline
metaphosphate. *Antibio*
6. Welch, H., Wright, W.
following oral admin
chlortetracycline b
Antibiotic Med. &
7. Welch, H., Wri
blood concentr
and chlortetra
Therap. 4:620
8. Dearborn, F
J. J., and
sorption
4:627-6
9. Sweene
J. M.
certa
1957.
10. Welch
hexam
tered
4:735-

TOBA

LIKE
monary-
moves ar
confused
cates who
countering of
vations about the
contrived aggression
medical credentials, th
reasons have become
"wealth of scientific
of chain smokers at
and reiterate that where
no one has yet proved th
cause of cancer. Not cont
position like that of those
without denying the "evi
interests have shown they
sive. Now, they have
including that of one
Tobacco and Health,
Looks at Smoking, di

Editorial.
The New England Journal of Medicine.
258:97-99, (January 9) 1958

ACHROMYCIN*V

TETRACYCLINE HCl BUFFERED WITH CITRIC ACID

is

tetracycline and citric acid

Lederle

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK
*Reg. U. S. Pat. Off.

Neurology Conference*

GEORGE A. SCHUMACHER, M.D.**

Presentation by the Neurological Service: Headache and Intracranial Aneurysm.

Dr. Margaret Newton: This is the first Mary Fletcher Hospital admission of a 47-year-old, white, married paper-mill worker.

Chief Complaint: Headaches of one month's duration.

Present Illness: One month prior to admission the patient rose during the night. His wife heard him fall and found him unconscious and limp on the floor. He roused spontaneously in 10 minutes, was drowsy, but oriented and complained of intense, throbbing occipital headache and pain in the back of the neck. During the next week he stayed in bed intermittently and continued to have severe headache which was partly relieved by Cafergot,® ice bags, and sitting propped up with pillows. While walking, his leg dragged slightly, and he complained of ringing in his ears. Three weeks prior to admission he was hospitalized elsewhere. Skull films, EKG, BUN, CBC, vital signs and temperature were normal. Apparently no spinal puncture was done. The patient continued to have headache and dragging of the right foot. Five days prior to admission he had sudden increase in intensity of his headache, especially in the back of his neck, followed by nausea and vomiting which subsided after several minutes. This episode recurred the following day. From then until admission he ate poorly and walked with slightly more limp of the right leg.

The patient was referred to the out-patient department for evaluation with a referring diagnosis of migraine. On the morning of admission he came, ambulatory, to the out-patient department and while there had a generalized convulsive seizure. This started with clonic movements of the right arm which became generalized. During the seizure eyes turned transiently toward the right. Following clonic movements he was flaccid and unconscious for several minutes, after which he began to thrash about with his left arm and leg. He was agitated but stuporous, with eyes deviated to the left. He was immediately admitted to the Neurological Service.

Past Medical History: Asthma since childhood. No previous symptoms of CNS disease.

Family History: Non-contributory.

Physical Examination: BP 130/80. P 92, R 28, T 37° C. The patient was a thin, wiry, poorly responsive white male thrashing about in bed, moving principally the left arm and leg. The remainder of the general physical examination was unremarkable except for increased AP diameter of the chest, diminished respiratory excursion, slight hyperresonance, numerous ronchi and occasional squeaks throughout, with slightly prolonged expiratory phase.

Neurological Examination: The patient was stuporous, restless, over-reactive, tossing about periodically and moving the left extremities only. He responded in a garbled, confused and totally uncooperative manner to questions or commands. He did not speak spontaneously, was quieter when left alone, and resisted examination. Nuchal rigidity and weakly positive Brudzinski and Kernig signs were noted. Eyes were deviated to the left, but transiently moved toward the midline. Conjugate eye movements were initially noted, but skew deviation and intermittent dissociation were noted later. Visual acuity and visual fields could not be tested. Pupils were round, regular, and equal, and reacted well to light. Fundi showed bilateral early papilledema. Right lower facial paresis, diminished right corneal and facial sensation, right sided hemiparesis with hyperreflexia and apparent right hemianesthesia were present.

Laboratory: CBC: Hb — 12.7, RBC — 4,280,000, WBC — 14,150 with P-82, B-2, L-10, M-4. *Urinalysis:* Sp. gr. 1.013, slight trace albumin, 4-8 WBC.

Course: The patient was heavily sedated with chloralhydrate, but even then any peripheral stimulus resulted in violent thrashing about. For this reason spinal puncture was deferred. On the following day nuchal rigidity and Brudzinski and Kernig signs developed. Arms were areflexic, knee jerks bilaterally markedly diminished, and eyes fixed in the midline. A spinal puncture was done.

Dr. Schumacher: On the basis of the facts presented by Dr. Newton the diagnosis is evident. Since the patient was referred to the clinic with a diagnosis of migraine, we may speculate briefly on certain aspects of the differential diagnosis of this condition. The majority of migraine sufferers, when first seen, give a history of recurrent headaches. If the patient comes to the doctor with his very first attack of headache, the headache is more apt to be related to structural intracranial disease. The reason for this is that migraineurs, that is, vascular headache sufferers, usually ignore their headaches for years and consider them a medical problem only after they have reached considerable fre-

*Medical Staff Conference at the Mary Fletcher Hospital, Burlington, Vermont.

**Professor of Neurology, University of Vermont College of Medicine. Chief, Neurological Service, Mary Fletcher Hospital.

quency and intensity. This by no means holds in one hundred percent of the cases, since a first attack of migraine headache can be sufficiently severe and prolonged for the patient to seek medical attention. Also, it may at times be associated with cerebral vasoconstrictor phenomena, so that suspicion of and differentiation from structural intracranial disease is strongly entertained. First attacks of migraine usually occur in a setting of life stress with emotional reactions, and this background can usually be established.

A prolonged history of recurrent headaches is apt to indicate migraine rather than structural intracranial disease, but this is not always true. Thus intermittent, recurrent, localized, throbbing headaches, indistinguishable from migraine and present for years, can be due to an intracranial aneurysm of the congenital arterial or "berry" type. If over the years it is always in the same location, the possibility of an aneurysm is greater. The headache of migraine usually shifts in location at some time or other, even though the majority of the attacks may be in the same area. Finally, chronic headaches of a relatively shorter duration, say weeks or months, can be due also to tumor, brain abscess, or subdural hematoma.

This patient apparently had no headaches prior to an abrupt loss of consciousness one month before admission, following which he had severe occipital headache, which never has entirely disappeared. It was associated with intense posterior neck muscle pain, stiffness, and incapacitation so that he could not go back to work. Nausea and vomiting, and a severe exacerbation of headache occurred five days before admission. The history of prolonged illness after abrupt onset, the failure of adequate convalescence, and the persistent neurological symptom of dragging of the right leg, take the illness out of the category of migraine and put it into the category of structural intracranial disease. Without attempting to recapitulate all our thinking in this patient and without attempting to give the answer as yet, we might ask what kind of intracranial disease? The right hemiparesis and stupor suggested a supratentorial lesion in the left cerebrum. The history of a month's occipital headache and posterior cervical pain strongly suggested a posterior fossa lesion. Blood in the posterior fossa emanating from a lesion in the supratentorial region was, therefore, thought to be a likely explanation.

Dr. Newton: LP was done on the second day. Initial pressure was 420 mm. CSF. The fluid was grossly bloody, with an RBC count of 62,000/cmm. (crenated). The supernatant fluid was xanthochromic and had a protein content of 137 mg.%. EEG was done. There was diffuse and widespread abnormality. Though there was no precise localization, the left side was more seriously involved than the right. Routine skull films were normal. A left carotid angiogram was done on the fifth hospital day.

Dr. Schumacher: Comment on the risk of spinal puncture in the presence of papilledema may be made at this point. The chance of herniation of the midbrain or medulla is greatest when the increased intracranial pressure is due to an expanding mass such as a tumor. It is relatively slight when it is due to an hydrocephalic type of increased pressure, such as in meningitis, subarachnoid hemorrhage, hydrocephalus, etc. One cannot afford not to do a spinal puncture for diagnostic purposes in conditions where meningitis or subarachnoid hemorrhage is suspected. Therefore, if a tumor is not highly probable, an exception is made and a calculated risk taken. In this instance, only enough fluid was removed to obtain a portion of supernatant fluid after centrifugation, since the demonstration of xanthochromia is the crucial feature in proving the pathologic origin of the bloody spinal fluid. The very high percentage of crenated RBC was another factor that supported the pathologic nature of the bloody fluid. The elevated protein content of the supernatant fluid can be shown by rough calculation to be approximately equivalent to the addition of serum protein, plus an additional slight increase due probably to irritation from the blood in the subarachnoid space. It suggests that other cause for protein rise, such as tumor, is not present.

Dr. Ellsworth L. Amidon: There is no way to accurately determine how much of the protein is due to hemolysis of red cells. The attempt to interpret the meaning of the protein level in the spinal fluid after hemorrhage must be quite difficult.

Dr. Schumacher: I agree it is not very accurate. Before looking at the x-ray films of the arteriogram carried out by Dr. Lester J. Wallman, it may be pointed out that there are several possible types of intracranial aneurysm. Mycotic aneurysms are associated with bacteremia including subacute bacterial endocarditis, of which there was no evidence here. Syphilitic aneurysms are generally conceded not to occur intracranially. This patient, aged 47, had no evidence of peripheral or retinal arteriosclerosis. Arteriosclerotic aneurysms, found only rarely intracranially at this age, are considered by some pathologists to be congenital aneurysms which have developed arteriosclerosis of the intima.

The two main types of congenital aneurysms are the arteriovenous, usually over the surface or within the parenchyma of the cerebrum or cerebellum, and the arterial or "berry" aneurysms, usually of the Circle of Willis or its branches. The former are generally discovered in younger patients, not infrequently in association with other anomalies, such as the portwine stain of the face (Sturges-Weber-Dmitri syndrome) or with a retinal hemangioma or A-V malformation (von Hippel-Lindau disease). The cerebral type may be associated with convulsions long before a vascular accident, such as hemorrhage or thrombosis, occurs. The basal arterial aneurysm, usually involves the Circle of Willis or its branches, either a fusiform dilatation, or a pedunculated, "berry" or saccular type. It is often but not

always associated with localized upper cranial nerve signs (III, IV, VI, or first division of V) when it ruptures. Flooding of the subarachnoid space by hemorrhage from one of these aneurysms may produce convulsions in 10% to 15% of patients at the time of rupture.

This patient had the classical history and signs of acute spontaneous subarachnoid hemorrhage. He had localizing signs suggesting involvement of the left cerebrum but not of the upper cranial nerves. Despite this, basal arterial aneurysm seemed the more likely type of lesion with the explanation of parenchymal involvement of the cerebrum related to one of the following mechanisms:

1. Rupture upwards of the aneurysm and penetration of the hemorrhage into the frontal or temporal lobe or within the Sylvian fissure.
2. Accummulation of the hemorrhage as a clot over the surface of the hemisphere or about the cerebral peduncle.
3. Spasm or thrombosis of the artery at or near the aneurysm with interference of circulation through its distal portion.

We shall now see the x-ray films of the left carotid arteriogram carried out by Dr. Wallman.

Dr. Arthur B. Soule, Jr.: Cerebral angiogram: AP and lateral radiographs of the skull taken during and following injection of opaque media into the left common carotid artery show good filling of the left internal carotid artery, and of the anterior and middle cerebral arteries on the left, and apparently of the anterior cerebral artery on the right. Two small sacculations were noted intracranially near the termination of the internal carotid artery; one of these appearing to be on the posterior communicating artery and measuring approximately 4 mm. in diameter. A slightly larger sacculation, which measured about 7 x 10 mm. in diameter, is situated close to the smaller sacculation and slightly anterior to it. It is difficult to be certain whether this also rises from posterior communicating artery or from the internal carotid artery. No definite neck could be visualized in either of these aneurysms. The anterior and middle cerebral arteries showed no visible abnormality. The veins were clearly demonstrated and showed no visible abnormality. The veins were clearly demonstrated and showed no visible abnormality. The parietal ascending vein was unusually wide and prominent.

Right angiogram: Lateral radiographs of the skull taken during and following injection of opaque media into the right common carotid artery showed good filling of the internal carotid artery, the anterior middle and posterior cerebral artery, and of the posterior communicating artery. There appeared to be another small aneurysm about 4 mm. in diameter arising from the posterior communicating artery close to its origin anteriorly. No other abnormalities are seen. AP radiographs were not very satisfactory for technical reasons but there was presence of dye in the corresponding blood vessels on the right; none was seen on the left. While the aneurysm cannot be clearly identified on these AP radiographs, it seems probable that it is on the right.

Dr. Newton: By the third day the patient had slight return of right facial muscle function. He had now regained sufficient consciousness to reveal a marked receptive and expressive aphasia. He was able to say "yes" and "no," follow simple commands, and apparently could see. Repeat spinal puncture on the fourth day of hospitalization showed an I.P. of 380 mm CSF with 19,900 RBS and 99 WBC/cmm. and slight xanthochromia. By the seventh hospital day the patient was alert and cooperative but still had considerable aphasia. Power of the right arm and leg had increased but there was still a right hemisensory defect, slight right lower facial paresis and slightly positive Brudzinski signs and nuchal rigidity. On the eighth hospital day another spinal tap showed an I.P. of 220 mm. CSF, slightly xanthochromic fluid containing 2,740 RBC, 64 WBC/cmm., and a protein content of 56 mg.%. Throughout his hospital course the patient remained on absolute bed rest. He was assisted in turning and eating, and every effort was made to reduce straining or exertion on the part of the patient.

Demonstration of the Patient by Dr. Schumacher: Conscious, alert, cooperative, quiet; marked improvement in right hemiparesis; receptive and expressive aphasia; areflexia of the DTR's; virtual disappearance of Babinski's; virtual disappearance of neck stiffness; residual bilateral Kernig signs.

Mr. Ho (Clinical Clerk): Reference to a recent paper in Archives of Neurology and Psychiatry, Multiple Intracranial Aneurysms by N. H. Bigelow, M.D., 73: 76-79 (January) 1955. Dr. Bigelow has reviewed all the literature for cases of intracranial arterial aneurysms and found that a little over 10% of them were multiple aneurysms. In his own series at the Albany Hospital he found the incidence of multiple aneurysms to be 25% at autopsy and 15% without autopsies. He also found that 32 out of 76 cases, or 42%, of the multiple aneurysms were bilaterally symmetrical. Simultaneous rupture of two aneurysms is rare, but leakage or rupture of a second aneurysm at some period subsequent to the bleeding of an earlier one is not uncommon. Therefore, he advises doing bilateral carotid angiography.

Dr. George H. Collins: Anomalies of the Circle of Willis have been reported in 34% of cases with intracranial arterial aneurysms. Two possibilities have been suggested concerning the relationship. On the one hand, both may be due to a basic congenital defect; on the other, the turbulence of blood flow in the anomalous circulation predisposes to the development or rupture of the aneurysm.

Intracranial aneurysms have been found in 5% of cases of coarctation of the aorta, which is not surprising

since it has long been realized that this condition is frequently associated with other vascular anomalies. The intracranial hypertension may be responsible for the rupture of these aneurysms and may even play a role in their development.

Thus far 44 cases of polycystic kidney have been reported in association with intracranial aneurysms. No basic etiologic relationship has been established although many have been postulated.

From a clinical point of view it seems probable that the nephrogenic hypertension which may develop would contribute to rupture of the aneurysm.

A thorough understanding of the natural history of any condition is essential to its intelligent management. As analysis of the statistics on subarachnoid hemorrhage should give us some of this information. The combined results of several investigators (Dandy; Wolff, Goodell & Wolf; Hamby, etc.) is presented:

Total Patients	*Died in 1st attack*	
523	169 (32%)	
Recurrence	*Died in Rec.*	*Survived*
174 (33%)	114 (22%)	233 (45%)

Perhaps the most striking feature is that less than 50% survived. It is also quite significant that 50% of those surviving the first attack have a recurrence and the number succumbing to the recurrence is about 66%. Approximately 50% of the deaths in the first attack occur within 48 hours. From 50% to 70% of the recurrences occur within two to four weeks following the initial episode. In a study of 67 cases it was found that 70% were alive after 10 years; 45% were symptom free and only 4% were severely incapacitated. Recurrence had occurred in 20% on the average of 6 years after the first attack. Presumably this was the cause of death in some.

The direct causes are either a massive intracerebral hemorrhage (60% of fatal cases have been reported with this complication) or continued subarachnoid bleeding. Predisposing factors are the age of the patient and the presence of hypertension. It has been found that the average age of the fatal cases was 8 years older than that of the survivors, and furthermore that the mortality in the 60 to 80 year age group was 69%. The mortality in cases with hypertension has been found to be significantly higher than in the nonhypertensive.

In summary, then, from the standpoint of management there are two groups to consider. The first includes those that die within the first few hours. For the present at least, there would appear to be little that can be done for these patients in the way of specific therapy. The second group would include those who survive, and here we must consider two phases in the course of the illness, viz., the critical four week period, and the later convalescent period. After the diagnosis has been established, efforts are made to determine the etiology of the bleeding and to maintain a regimen of absolute rest and quiet for the patient.

Although blood dyscrasia as a cause of subarachnoid hemorrhage is not frequent, complete blood coagulation studies should be done. At some point angiograms must be done, but the time for doing this is not entirely agreed upon. Various criteria have been used, including the absence of active bleeding. Others have stressed that it may activate the bleeding site or that spasm may be induced and be deleterious. Probably the main objection is the added strain of moving the patient.

Dr. Wallman: Surgical treatment in these patients depends upon the accurate demonstration of the lesion by arteriography and then placing a clip or ligature on the neck of the aneurysm if it has one, or on the parent vessel if conditions permit. Arteriographic study of the entire Circle of Willis is necessary, partly because many patients have multiple aneurysms, and partly also to demonstrate the possible collateral circulation if a parent vessel is to be ligated.

A single aneurysm with an accessible neck represents the most favorable situation, as ligation of the neck results in a complete cure. Ligation of the parent vesvel may be permissible, if there is no pedicle and if its location and probable collateral indicate that depriving the brain of the blood carried by this vessel will not result in too much of a neurological deficit.

Experience has shown that intracranial operations are tolerated very poorly during the first two weeks or so after an episode of bleeding. Thus, most surgeons feel that arteriography may safely be done early, but that definitive operation should be delayed beyond the most dangerous period for the patient. This, of course, leads to the necessity for some very difficult decisions; balancing the risk of recurrent spontaneous bleeding against the risk of manipulating the aneurysm. The findings on arteriography provide the most important information upon which to base this decision in an individual case.

Carotid artery ligation in the neck is of a relatively simple procedure and is the treatment of choice in many cases of aneurysm of the carotid artery itself. Adequate collateral circulation in the Circle of Willis must be present, however, or hemiplegia or other major deficit will result. Aneurysms at the Circle or beyond depend for their blood supply on the same factor of collateral circulation. Thus, if carotid ligation lowers the arterial tension within the aneurysm significantly, normal blood supply in the area is also reduced and the risk of hemiplegia is greater. We, therefore, rarely employ this procedure except in carotid aneurysms.

Dr. Schumacher: The importance of absolute and complete rest in the management of ruptured intracranial aneurysms in order to obtain maximal protection against recurrence of hemorrhage in the first two to four weeks is evident from this and other similar cases. The statistics indicating the high incidence of

recurrence, often fatal, within the first two to four weeks after the initial rupture, have never been analyzed, to my knowledge, in terms of the proportion of patients kept at absolute, complete bed rest and those allowed to move about in bed or even to get up and about. This problem is worthy of more careful study to determine how effective absolute and complete bed rest would be in lowering the incidence of recurrent hemorrhages in the first four weeks.

It has been the practice of the Neurological Service to maintain such patients on absolute bed rest for four weeks, then with slight activity in bed over the next two weeks, followed by gradual mobilization out of bed. The only exception has been the activity necessitated by diagnostic and therapeutic procedures. Repeated spinal punctures have been felt justified in order to reduce pressure and cerebral irritation, thereby diminishing headache, stupor, restlessness, and overactivity. Whether arteriography, with its attendant risks, should be carried out early to provide indications for early definitive surgery, or delayed until the lesion is more stable, remains a problem.

Some New Regulations for Physicians with Medicare Patients

Office for Dependents Medical Care has some new and clarifying regulations dealing with medicare patients and ancillary medical personnel. They are:

Hospital Accommodations

Dependents are eligible for semi-private accommodations (two or more beds) and pediatric cases may be handled in wards. For private accommodations, the following should be kept in mind: (1) when this arrangement is believed necessary by the doctor, the patient pays 25 per cent of the difference between the private room fee and the weighted average of semi-private, (2) when the patient or sponsor only insists on private room, the patient pays the full difference, and (3) when the hospital has only private rooms, the medicare patient pays 10 per cent of the daily charge for the room, or the total daily hospital charge, less $15, whichever is the greater.

Independent Ancillary Personnel

Nurse anesthetists and physical therapists who work on an independent basis can now be paid direct if (1) the attending physician certifies on form DA-1863 that the services were authorized by him and (2) the amount charged does not exceed the normal charge to the public having an annual income of $4,500.

Maternity Case Fees

If pregnancy terminates in premature delivery, the doctor is entitled to full fee if he has rendered continuous antepartum care beginning in the first eight weeks of pregnancy. Should a maternity patient consult a physician in a locality away from that of her attending doctor or clinic, the doctor consulted is entitled to a fee for a home or office visit.

Guest Editorial

GEORGE A. WOLF, JR., M.D.*

The University of Vermont College of Medicine established in 1804 has almost continually functioned as a modern, fully accredited College of Medicine. Although it is an integral part of the State University of Vermont, the College of Medicine receives only about 44% of its budget from the people of Vermont through action of the legislature at a per capita tax contribution of $1.39. Among the students who make up our student body Vermont residents are in the minority, the majority being derived from other New England states. Furthermore, only a relatively small proportion of our graduates remain in the state to practice. Indeed, our alumni are active from coast to coast in all but five of the states and in several foreign countries.

In addition to providing a highly creditable education for medical students, we carry on an extensive research program designed to contribute to the total sum of medical knowledge and by no means restricted to local interest.

Here at the University of Vermont College of Medicine we have originated a program which has attracted wide interest because it answers the need commonly recognized in most American colleges of medicine. This program, aimed at liberalizing the education of the physician integrates the last year of college with the first year of medical school over a two-year period within the regular eight-year term.

The College of Medicine has continued to provide services to the state, area and region. Not only do we enjoy a firm relationship with two teaching hospitals in our vicinity but also maintain a working relationship with other teaching hospitals in the State of Vermont, the Maine Medical Center in Portland and Sunmount and Ray Brook Hospitals in New York State. Our affiliated hospitals have a total of 4,000 beds.

The medical needs of the rural areas of Maine, New Hampshire and Vermont are being explored by a Board instigated by the College of Medicine and recognized just this past year by the legislatures of the three states. This Board has to date been concerned with physician placement in Maine, New Hampshire and Vermont and has done studies in Maine and Vermont. Still further evidence of the inter-dependence of the northern New England States is to be found in the recently established compact among several of the New England States which has resulted in the establishment of the New England Board of Higher Education.

That our facilities from a physical standpoint are inadequate for our program is apparent to any visitor to the campus. However, on October 19, 1957, the Board of Trustees of the University, recognizing our critical need voted to accept a bid on Phase I of the College of Medicine Building, and a week thereafter ground was broken for construction of this first unit.

Although space for clinical research will be provided in this Phase I and the Department of Pathology will take up its quarters there, the remaining basic science departments and some of the clinical departments will still be pressed for space and will continue to be unless the entire College of Medicine Building can be completed.

Funds for construction of Phase I have not as yet been completely assembled but have come from the Health Facilities Research Construction Division of the U. S. Public Health Service and from our alumni body. Continued search for funds from foundations and other private sources is going on. In 1966 the increased birth rate experienced after the war will start making itself felt in demand for increased places for medical students. We must be prepared not only to provide opportunity for medical education to the increased number of students in the northern New England area but also continue our research and service programs.

*Dean, University of Vermont College of Medicine.

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D.	Togus	Fourth District, JAMES E. POULIN, M.D.	Waterville
Second District, WALDO A. CLAPP, M.D.	Lewiston	Fifth District, MARCUS A. TORREY, M.D.	Ellsworth
Third District, RALPH P. EARLE, M.D.	Vinalhaven	Sixth District, RICHARD C. WADSWORTH, M.D.	Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville PEARL R. FISHER, R.N., Waterville

Across The Desk

Are Hospitals Public?

They may be, but accepting federal (Hill-Burton) funds does not make them so according to a ruling of an Arkansas court. "Direct receipt of tax funds by a hospital does not make it a public institution if taxation is not the sole source of revenue." So stated the court when it refused to order a community hospital to readmit a member of the staff who had been dismissed. The court further defined: "A hospital is not a public hospital unless it is founded, owned, managed and financed by the state and is an instrumentality of the state."

Usual and Reasonable Fees Are Paid by at least One Blue Shield Plan

There is no fee schedule involved in an experimental plan started in Racine, Wisconsin a couple of years ago. The experience under this plan is small (25,000 people) and the time is short, but the figures are fascinating. For example, the average claim under the no fee schedule plan was $26.43; the average claim under standard Blue Shield was $32.25. The new plan covers many procedures when they are performed at home or in the doctor's office as well as in the hospital and thereby cuts down hospital usage and lowers the cost.

Benefits paid to subscribers were a little higher, however, and averaged $1.14 per subscriber as compared to $1.05 under the standard Blue Shield plan. Other groups are trying similar plans. West Virginia has had one in operation for some time and Iowa has one in the works.

Health Facilities for Rural Maine

Two members of the Maine delegation introduced bills into the Legislature this month designed to give the people in rural areas an even break when it comes to the construction of health facilities. Recognizing the unequal distribution of Hill-Burton funds between urban and rural areas, Senator Frederick G. Payne and Congressman Frank M. Coffin separately introduced bills which would amend Title VI of the Hill-Burton Act to allow construction of diagnostic-treatment facilities in rural areas by nonprofit corporations from those areas. This is a giant step in the right direction for Maine medicine and is highly endorsed by the Maine Medical Association. Opposition to the measure has sprung up where it was least expected. The AMA is making noises which seem to indicate that we will soon hear the old refrain, "We're agin' it!"

Hill-Burton Increase Proposed in Recession Move

Anti-recession moves by Congress and the administration this week found health programs affected. First move came with President Eisenhower's decision to restore $46 million for Hill-Burton hospital construction, bringing the requested total for the next fiscal year to $121.2 million. This would be the same amount appropriated a year ago for this fiscal year. Prospects are considered good that the total may go even higher than the $121 million (the authorized ceiling is $210 million).

This was followed by hearings before the Senate Banking and Currency Committee on bills for public works

loans and grants. One bill (S. 3497) provides for a $2 billion loan fund, with interest of about 3 per cent, for construction, repair and improvement of a wide range of public projects, including public hospitals, rehabilitation and health centers, and state medical schools. Loans could run for as much as 50 years and would be made directly to states, cities, counties or other state agencies or could be made in participation with other lending agencies.

Another bill (S. 3447) provides for loans and grants to distressed areas through the Commerce Department. Money under the first bill would be loaned through the Community Facilities Administration of the Housing and Home Finance Agency. CFA has been making loans to smaller communities for water and sewer systems.

Medical Grievance Committees Spread across Nation

More than 1,100 American county and state medical societies now have "medical juries" — grievance committees organized to mediate differences between doctors and patients.

The accomplishments and aims of grievance committees are outlined in a special article and editorial in the April 5 Journal of the American Medical Association.

Medical grievance committees are not really new. Since 1871 the committee on ethics and discipline of the Massachusetts Medical Society has been mediating the complaints of patients. What is new is the spread of the committees across the nation. During the last ten years more than two-thirds of the county societies and all the state and territorial associations have organized them.

Serving on these committees are between 5,000 and 10,000 physicians who fearlessly "judge complaints routinely in the twin light of public interest and professional service," the article said.

On one hand a committee may rule in favor of the patient, saying for instance, about the doctor involved, "Fee for prenatal visits considered excessive."

On the other hand, it may decide in favor of the physician. One example is that of the patient who protested that he was charged $40 for "just one office visit." Investigation showed that, at his own request, the visit entailed a thorough examination including a fluoroscope study, electrocardiogram, and extensive laboratory work. When he understood what the fee covered, he withdrew the complaint with apologies.

The majority of complaints against doctors are "due not to incompetence or greed but to misunderstandings — misunderstandings which could have been dispelled quickly if there had been an opportunity to determine the cause in frank discussion," the article said.

"So many complaints have been caused by a misunderstanding of the basis for a doctor's fee that grievance committees spend a good deal of time emphasizing the importance of discussing costs before and itemizing bills after, medical service," the article continued.

The AMA has taken a double-barreled approach on fees — urging doctors to discuss fees before service and calling upon state and county societies to crack down on the few doctors who have been overcharging.

Most grievance committees do not mete out punishment when they find a complaint justified. A Colorado spokesman has pointed out that "You cannot be prosecutor, judge, and jury all in one body." When disciplinary action is needed, it is usually referred to the appropriate judicial body of the association.

Most of the committees are composed of physicians only, but some include laymen — lawyers, ministers and businessmen. Inclusion of laymen is still in the experimental stage, according to the AMA Council on Medical Service. "But they may serve to strengthen community trust in the impartial attitude of the committee. . . ."

However, one West Coast woman was quoted as saying, "In our community we know the doctors are working to protect us, not other doctors' careers."

One way to help the community know about the grievance committees is to publicize them, the article said. The Council on Medical Service has pointed out that the service "cannot succeed unless the public knows of its existence and understands how to use it."

The Journal editorial said the grievance committee is "here to stay as an integral part of our profession. In the years ahead only technique may need refinement. . . ."

Plasma Storage Eliminates Danger from Hepatitis

A recent four-year study has given additional proof that storage of pooled blood plasma at room temperature eliminates the danger of hepatitis being transmitted by the plasma.

Hepatitis, a liver disease, is caused by a virus which may be transmitted through transfusion of whole blood or plasma.

Reported in the March 15 Journal of the American Medical Association, the study was conducted at the University of Cincinnati College of Medicine and Cincinnati General Hospital between January, 1953 and January, 1957. The survey included 282 patients who were given plasma taken from 4,892 donors. This plasma was pooled and stored at room temperature for six months. None of the recipients developed hepatitis.

"Trial" of Psychoanalysis

U. S. Tax Court is expected to begin hearings next month on question of cost of psychoanalysis — whether a psychiatrist who undergoes analysis may include the expense as a business deduction. Internal Revenue Service's ruling in the negative has been appealed to the Tax Court.

Another medical litigant is Donald Watt, D.O., of

Dallas, who is asking U. S. Supreme Court to overrule revocation of his license by Texas Board of Medical Examiners. He was on a $2,000 monthly salary from Hoxsey Cancer Clinic at the time his license was taken up in 1955.

Social Security

A bill introduced by Rep. Roosevelt (D., Calif.) would increase the wage base on which social security taxes are collected from the present first $4,200 of income to the first $10,000. Also, the limit would go up $500 each year that the Consumer Price Index rises five points, and remain at the higher level as long as any part of the index gain is retained. The monthly social security benefits also would be increased under a new formula. Under this bill a self-employed individual with an income of $10,000 would pay at least $637.50 in social security taxes alone. The number is H.R. 9834 . . . Mr. Roosevelt, in H.R. 9835 would make social security coverage compulsory for all physicians . . . Another Roosevelt bill (H.R. 9836) would liberalize requirements for disability benefits both under the social security disability payments program and the disability "freeze" by a less strict definition of time the recipient has spent in covered occupations. It would make another important change by specifying that an applicant would be eligible for benefits if unable to obtain employment in an occupation *similar* to the work he formerly engaged in; under present law the benefit is allowed only if the applicant is physically unfit for *any* substantial gainful employment. Furthermore, a statement from a governmental agency that the applicant qualifies as disabled under its regulations would be sufficient evidence of disability under the social security program.

Driver Training Would Lower Insurance Rates

Probably the best way to reduce automobile insurance rates is to teach teen-agers how to drive properly.

This would increase the number of accidentless drivers which would help reduce insurance costs, a New York high school teacher said.

Writing in the December Today's Health, the American Medical Association's popular health magazine, David Star, Floral Park, New York, said training would also help reduce the rising number of fatal accidents involving drivers under 25 years of age.

Yearly 1,600,000 boys and girls reach the legal driving age; 728,000 receive no training except what is picked up from friends and relatives.

"If everyone of our 1,600,000 16-year olds passed a driver training course, we could in a generation put more than 30,000,000 drivers on our highways who had been trained in safe and skillful practices," Star said.

Since last February, Michigan has had a law that says no one under 18 can be licensed to drive unless he has passed an approved course of driver instruction. The cost of instruction in the high schools is provided for from licensing fees and the course requires a minimum of 30 hours of classroom instruction and six hours of driving.

Among the subjects taught are the motor vehicle's effect on social and cultural life; the driver's physical requirements, mental attitudes and social responsibilities; characteristics of streets and highways; legal structures and codes; automotive mechanics and maintenance; automotive consumer education, and skills in driving.

"We used to think anyone could just pick up driving, but we now realize that instruction and coaching are just as important in driving as they are in athletics, music or bridge building," Star said.

"When a youngster just picks up driving, he usually acquires bad attitudes from his parents or other drivers. Faulty attitudes are much more often at the bottom of young driver accidents than lack of skill."

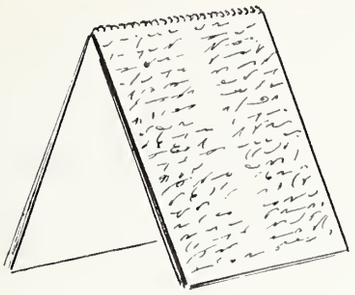
The more young drivers given knowledge and healthy driving attitudes at the beginning of their driving careers, the fewer unsafe drivers of all ages there will be in the years ahead, he concluded.

Nine VA Hospital Projects Will Cost $16.9 Million

Veterans Administration is almost ready to let contract bids for nine hospital improvement projects aggregating about $16.9 million. Number one in size is expansion of the Downey, Illinois veterans hospital. The other contracts will be for construction of a cobalt 60 therapy unit at Bronx, New York; animal laboratories at Syracuse, New York and West Haven, Connecticut; additional buildings at Bedford, Massachusetts, Chillicothe, Ohio and Roanoke, Virginia and various remodeling at Ann Arbor, Michigan and Newington Connecticut.

At the close of 1957, VA inpatient load was in excess of 113,000 or more than 1,000 higher than previous year. Medical outpatient care was 5 per cent above a year ago, but dental outpatient examinations and treatments were less than one-half of 1956.

Social Security for Physicians
Results of Poll of Members of MMA as of April 8:
386 YES 209 NO



From the Secretary's Notebook

1958 ANNUAL SESSION

The 105th Annual Session of the Maine Medical Association will be held at The Samoset, Rockland, Maine, June 22, 23 and 24.

House of Delegates — The House of Delegates will meet on Sunday, June 22; the First Meeting at 10:00 A.M. and the Second Meeting at 4:00 P.M.

Council — The Council will meet on Saturday evening, June 21, and daily throughout the session in accordance with the By-Laws.

Scientific Program — The program for Monday and Tuesday, June 23 and 24, is being arranged by the Scientific Committee consisting of the following members:

Edward G. Asherman, M.D., Portland, Chairman
Richard H. Dennis, M.D., Waterville
Daniel R. Shields, M.D., Lewiston

Plans for these two days include a program sponsored by the Maine Chapter of the American College of Surgeons on Monday afternoon, and on Tuesday afternoon a program to be presented by the Maine Medico-Legal Society.

Evening Programs — There will be a speaker on Sunday evening, the annual banquet on Monday evening, and on Tuesday evening the Clam Bake.

Election of Councilors — Election of Councilors for the following Districts will take place at the Second Meeting of the House of Delegates on Sunday, June 22 at 4:00 P.M.:

Fifth District — Hancock and Washington Counties
Sixth District — Aroostook, Penobscot and Piscataquis Counties

According to the M.M.A. By-Laws, Chapter IV, Section 7, "Nominations for members of the Council for any District where there is to be a vacancy shall be made by a caucus of the members of the House of Delegates of that District. Each candidate must be a resident of the District for which he is nominated."

Election of President-elect — In accordance with the By-Laws, the election of President-elect shall take place at the close of the first general afternoon session (Monday, June 23). A President-elect shall be elected annually. He shall serve as President-elect until the annual session of the Association next ensuing after his election and shall become President upon his installation in the course of that session, serving thereafter as President until the next annual session and the installation of his successor.

Official Program — The program-in-brief will be published in the May issue of the Journal and the complete program in the June Journal.

Hotel Reservations — A reservation form will be sent to each member of the Association well in advance of the meeting.

Woman's Auxiliary to The Maine Medical Association
1958 Annual Session

The annual meeting of the Woman's Auxiliary to the Maine Medical Association will be held at the Elmwood Hotel, Waterville, Maine on Wednesday, May 14. The Board meeting will be held at 10:00 a.m., and will be followed by luncheon for all auxiliary members at one o'clock. Reservations for lunch should be made with Mrs. Philip B. Chase, Farmington, Maine.

DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Advisory Committee Considers Medical Care Program

Problems in connection with a legislative appropriation of $50,000 for each year of the current biennium to be used for a medical program in the Aid to Dependent Children category were referred to a subcommittee of the Department's Advisory committee at its recent annual meeting. Dr. Daniel F. Hanley, Executive Director of the Maine Medical Association, is Chairman of the sub-committee. The current caseload in the "ADC" program is in excess of 5,000, representing approximately 13,500 children. Obviously, the State appropriation, even with a similar Federal matching grant, would not provide an adequate medical program for the number of eligible children. Dr. Brinton T. Darlington of Augusta who serves the department as a medical consultant and Owen Pollard, Rehabilitation Services Supervisor will work with the subcommittee in determining the type of limited medical care program that would be the most feasible.

Dr. Frederick T. Hill of Waterville was re-elected Chairman of the 15 member citizens advisory group which is established by law to advise and aid the department in health and welfare problems and programs. Mr. Barron was re-elected Vice-Chairman and Mrs. Theodore Fobes of Cape Cottage was chosen to serve again as Secretary.

Summary of Commitment Procedure to State Sanatoria

Physicians who have occasion to be concerned with involuntary commitment of patients to any one of the three state sanatoria may be interested in a brief summary of existing State laws on the subject. Legal steps for the involuntary commitment of a patient may be instituted through the District Health Officers of the department, but before any patient is so committed, medical findings regarding his condition must be made to a Superior Court Judge by a board of three physicians. The patient may choose one member of this board; the Judge then designates one of the sanatoria superintendents and appoints a third physician as the other members. The examination is made by and in the presence of all three and the findings reported directly to the Superior Court Judge.

If the Judge is satisfied that the patient should be committed to a sanatorium, he may commit him to any of the three institutions in the State. If the patient refuses to go to the sanatorium, the Judge may order the sheriff to deliver him.

After commitment, the patient is in the custody of the superintendent of the sanatorium until such time as the superintendent considers that the release of the patient does not endanger the public health or the health of the patient himself. It is the legal obligation of the superintendent to keep the patient in the institution, and he may employ any lawful means, even security measures, to do so.

In the case of such a patient leaving a sanatorium before being discharged, the superintendent shall file an affidavit before the Judge of the same Superior Court from which the original commitment was made and the Judge will order the sheriff to return the patient to the institution.

The foregoing is merely a summary of legal provisions already in force.

New Director of Public Health Nursing

With the retirement of Miss Helen F. Dunn, R.N., for the past 18 years Director of the Department's Division of Public Health Nursing, Miss Mary M. Sullivan of Manchester, N. H., becomes head of that division. Miss Sullivan comes to Maine with a well-rounded background of education and experience in public health work. In addition to her nursing degree from Bellevue Hospital School of Nursing, she holds a bachelor of science degree from the University of New Hampshire and a master's degree in public health nursing administration from New York University. In addition, Miss Sullivan has completed special courses in personnel guidance and occupational health at Teachers College, Columbia University.

She has served as nursing consultant for the U. S. Public Health Service; as Supervisor of the Visiting Nurse Service of New York City, and for the past six years has been General Director of The Visiting Nurse Association of Boston.

Another personnel change of interest is the resigna-

tion of Dean P. Morrison, who since 1953 has directed the Department's program of Services for the Blind. Mr. Morrison has joined the Maine staff of the New England Home for Little Wanderers as Assistant Director with headquarters at Waterville. His successor has not yet been chosen.

Provisional Figures Show Minor Changes in Vital Statistics

Provisional figures from the Division of Vital Statistics indicate that live births occurring in Maine were down slightly in 1957. The preliminary figures show 22,063 live births reported in Maine during the calendar year 1957 and a provisional birth rate of 23.4 live births per 1,000 population. This represents a decrease of about 1.6 per cent from live births reported in 1956.

Deaths, however, were up somewhat over the 1956 total. The provisional number of deaths reported in Maine in 1957 was 10,420 and the provisional death rate was 11.0 per 1,000 population. This represents an increase in number of about 3.9 per cent over 1956.

The increase in general mortality in 1957 appears to have occurred principally during the months of October, November and December, coincident with the epidemic of Asian influenza which swept the state. Deaths during these three months in 1957 were up by 12.9 per cent over deaths during the similar period in 1956, and the death rate for these three months, at 12.4 per 1,000 population, was up by about 25 per cent over the death rate for the first nine months of the year, which stood at 9.9 deaths per 1,000 population. The phenomenon of a high death rate during the last three months of the year was not confined to Maine, but appears to have occurred generally throughout the country.

All figures given above represent provisional counts of certificates filed with the State Registrar of Vital Statistics during the year 1957, and are subject to revision at a later date.

Nursing Home Care Program

Physicians are now being consulted by the Department's small staff of nursing home workers in connection with the Nursing Home Care program now in operation. The next issue of the Journal of the Maine Medical Association will carry an article regarding the physician's role in this new State program.

THE RATIONAL USE OF X-RAY IN MEDICINE AND DENTISTRY —

Continued from page 134

9. Dameshek, W., and Gunz, F. W. Diagnostic and therapeutic x-ray exposure and leukemia. J.A.M.A., 163:838-840, 1957.
10. Van Swaay, H. Aplastic anaemia and myeloid leukemia after irradiation of the vertebral column. Lancet, 2:225-227, 1955.
11. Stewart, A., Webb, J., Giles, D., and Hewitt, D. Malignant disease in childhood and diagnostic irradiation in utero: preliminary communication. Lancet, 2:447, 1956.
12. Upton, A. C., Furth, J., and Christenberry, K. W. Late effects of thermal neutron irradiation in mice. Cancer Res., 14:682-690, 1954.
13. Simpson, C. L., Hemplemann, L. H., Fuller, L. M. Neoplasia in children treated with x-rays in infancy for thymic enlargement. Radiology, 64:840-845, 1955.
14. Duffy, B. J., Jr., and Fitzgerald, P. J. Cancer of the thyroid in children: a report of 28 cases. J. Clin. Endocrinol., 10:1296, 1950.
15. Clark, D. E. Association of irradiation with cancer of the thyroid in children and adolescents. J.A.M.A., 159: 1007, 1955.
16. Ritter, V. W., Warren, S. R., Jr., and Pendergrass, E. P. Roentgen doses during diagnostic procedures. Radiology, 59:238-251, 1952.
17. Laughlin, J. S., Meurk, M. L., Pullman, I., and Sherman, R. S. Bone, skin and gonadal doses in routine diagnostic procedures. Am. J. Roentgenol., Rad. Ther. & Nuc. Med., 78:961-982, 1957.
18. Ardran, G. M., and Crooks, H. E. Gonad radiation dose from diagnostic procedures. Brit. J. Rad., 30:282-284, 1957.
19. Clayton, C. G., Farmer, F. T., and Warrick, C. K. Radiation doses to the foetal and maternal gonads in obstetric radiography during late pregnancy. Brit. J. Rad., 30:291-294, 1957.
20. X-ray Protection, Handbook 60. U. S. Department of Commerce, National Bureau of Standards, 1955. For sale by the Superintendent of Documents, Washington 25, D. C. Price 20 cents.
21. Emanuel, M., and O'Connor, F. J. Practical device to reduce radiation hazard in urology. Jour. Urol., 78:192-195, 1957.
22. Nolan, W. E., and Patterson, H. W. Radiation hazards from use of dental x-ray units. Radiology, 61:625-629, 1953.
23. Etter, L. E. Radiation dose reduction by higher voltage dental roentgenography. J. Am. Dent. Ass'n., 53:305-309, 1956.

Tuberculosis Abstract

- This year, approximately 50 persons in every 100,000 in the United States will develop tuberculosis.
- In the New England States in 1955 of 4,000 newly reported cases, 3,500 had active disease. There were 800 people who died with tuberculosis.
- Current drug therapy and resection surgery have created a rapidly changing picture in tuberculosis treatment. More patients are returning to work while on chemotherapy.

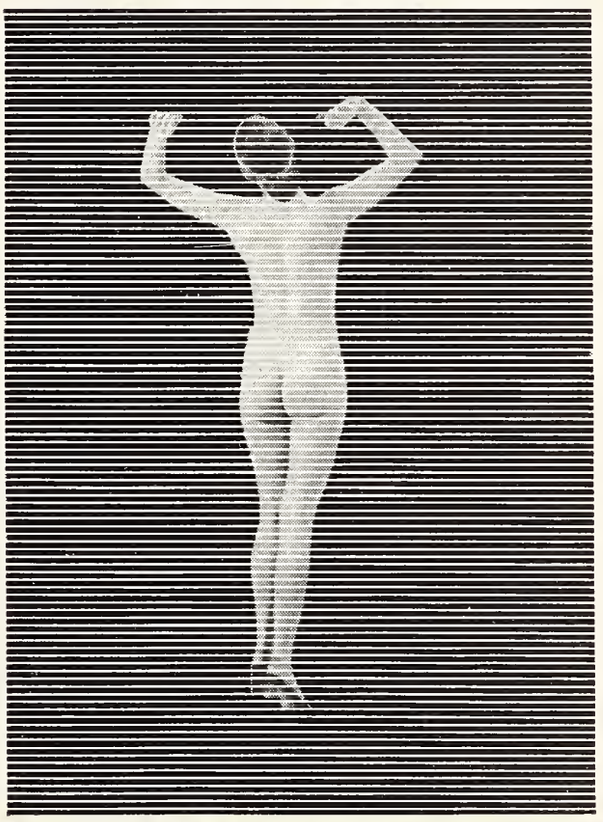
Excerpts from article by Reginald C. Edson, M.D., F.A.C.P., *Industrial Medicine and Surgery*, March, 1957, and Tuberculosis Abstracts issued by the National Tuberculosis Association, November, 1957.

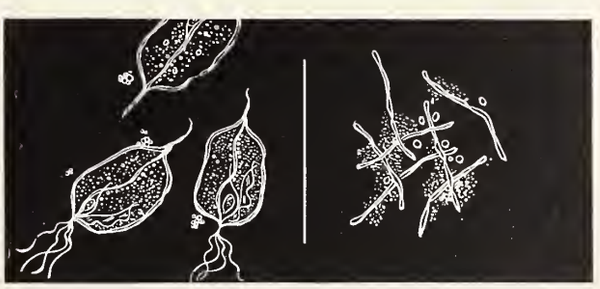
The Maine Trudeau Society, Medical Section, Maine Tuberculosis Association

CHEMOTHERAPY PLUS FLORA CONTROL

Floraquin®

Destroys Vaginal Parasites
Protects Vaginal Mucosa







Vaginal discharge is one of the most common and most troublesome complaints met in practice. Trichomoniasis and monilial vaginitis, by far the most common causes of leukorrhea, are often the most difficult to control. Unless the normal acid secretions are restored and the protective Döderlein bacilli return, the infection usually persists.

Through the direct chemotherapeutic action of its Diodoquin® (diiodohydroxyquin, U.S.P.) content, Floraquin effectively eliminates both trichomonal and monilial infections. Floraquin also contains boric acid and dextrose to restore the physiologic acid pH and provide nutriment which favors regrowth of the normal flora.

Method of Use

The following therapeutic procedure is suggested: One or two tablets are inserted by the patient each night and each morning; treatment is continued for four to eight weeks.

Intravaginal Applicator for Improved Treatment of Vaginitis

This smooth, unbreakable, plastic device is designed for simplified vaginal insertion of Floraquin tablets by the patient. It places tablets in the fornices and thus assures coating of the entire vaginal mucosa as the tablets disintegrate.

A Floraquin applicator is supplied with each box of 50 tablets. G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

SEARLE

COUNTY SOCIETIES

ANDROSCOGGIN

President, Paul J. LaFlamme, M.D., Lewiston
Secretary, Donald L. Anderson, M.D., Lewiston

AROOSTOOK

President, Melvin R. Aungst, M.D., Fort Kent
Secretary, Clyde I. Swett, M.D., Island Falls

CUMBERLAND

President, Ralph Heifetz, M.D., Portland
Secretary, Stanley E. Herrick, Jr., M.D., Portland

FRANKLIN

President, Wallace H. Duffy, M.D., Farmington
Secretary, Paul E. Floyd, M.D., Farmington

HANCOCK

President, William C. Luther, M.D., West Sullivan
Secretary, Elizabeth B. Connell, M.D., Blue Hill

KENNEBEC

President, Howard H. Milliken, M.D., Hallowell
Secretary, Arch H. Morrell, M.D., Augusta

KNOX

President, David V. Mann, M.D., Camden
Secretary, Parker Heath, Jr., M.D., Rockland

LINCOLN-SAGADAHOC

President, Stanley R. Lenfest, M.D., Waldoboro
Secretary, George W. Bostwick, M.D., Newcastle

OXFORD

President, Norman M. Jackson, M.D., Rumford
Secretary, Harry L. Harper, M.D., South Paris

PENOBSCOT

President, J. Robert Feeley, M.D., Bangor
Secretary, Warren G. Strout, M.D., Bangor
Treasurer, Dexter J. Clough, 2nd, M.D., Bangor

PISCATAQUIS

President, James H. Johnson, Jr., M.D., Milo
Secretary, Linus J. Stitham, M.D., Dover-Foxcroft

SOMERSET

President, Richard P. Laney, M.D., Skowhegan
Secretary, Harland G. Turner, M.D., Norridgewock

WALDO

President, Ernest W. Stein, M.D., Pittsfield
Secretary, John A. Caswell, M.D., Belfast

WASHINGTON

President, Robert G. MacBride, M.D., Lubec
Secretary, Karl V. Larson, M.D., East Machias

YORK

President, William B. O'Sullivan, M.D., Saco
Secretary, C. W. Kinghorn, M.D., Portsmouth, N. H.

County Society Notes

ANDROSCOGGIN

February 20, 1958

The February meeting of the Androscoggin County Medical Association was held at St. Mary's General Hospital in Lewiston. Fifteen members were present.

Paul J. LaFlamme, M.D., of Lewiston, President of the Society, called the meeting to order.

A letter from the Secretary-Treasurer of the Maine Medical Association was read announcing the meeting of the House of Delegates to be held in Brunswick on March 30. The Blue Shield Plan was discussed and those present felt that each Doctor will have to decide individually whether or not to accept the new plan.

John Finn, Jr., M.D., associate physician at the New England Medical Center, was the guest speaker. His subject was "Recent Information About Virus Diseases."

WIRT L. DAVIS, M.D.
Secretary pro-tem

KNOX

February 11, 1958

The Knox County Medical Society held its February meeting at the Copper Kettle in Rockland, Maine. There were twenty-two members and one guest present.

The after dinner speaker was Orvar Swenson, M.D., of the Bingham Foundation, who presented an address with slides on "Abdominal Pain In Children."

March 11, 1958

There were thirteen members and one guest present at the March meeting of the Knox County Medical Society, which was held at the Copper Kettle in Rockland.

Robert P. McCombs, M.D., of the Bingham Foundation, was the guest speaker. Dr. McCombs' subject "Chest Disease With Particular Reference To Allergy" was illustrated with slides.

PARKER HEATH, JR., M.D.
Secretary

HANCOCK

March 12, 1958

The March meeting of the Hancock County Medical Society was held at the Hancock House in Ellsworth, Maine. Guests present at this meeting were Drs. Richard K. Jennings; G. Merrill Haskell; Robert Leonard and the guest speaker, James Mabee, D.D.S.

The meeting was called to order by the Vice-President, Llewellyn A. Cooper, M.D. of Bar Harbor. Richard K. Jennings, M.D., of Southwest Harbor, was elected to membership by transfer from the Knox County Society. It was voted to hold a joint meeting with the Penobscot County Medical Association in Bangor on April 1.

Dr. Mabee presented an excellent series of slides on benign and malignant lesions of the mouth, and discussed the diagnosis and treatment of these conditions.

ELIZABETH B. CONNELL, M.D.
Secretary

PENOBSCOT

February 18, 1958

Allan M. Butler, M.D., Professor of Pediatrics at Harvard Medical School, was the speaker at the February meeting of the Penobscot County Medical Association, held at the Tarratine Club in Bangor. Dr. Butler, who was introduced by Charles D. McEvoy, M.D., Program Chairman, presented an interesting and informative talk on "Fluid Therapy In Post-operative And Dehydrated Patients." His address stimulated much discussion from the floor and was well received.

The business meeting was called to order by President-elect John E. Whitworth, M.D., of Bangor, in the absence of the President, Dr. Feeley. Plans for a combined county meeting in April was discussed briefly and preliminary results of the Emergency Call questionnaire were announced.

WARREN G. STROUT, M.D.
Secretary

PISCATAQUIS

February 18, 1958

The Piscataquis County Medical Society held its February meeting at the Blethen House, Dover-Foxcroft, Maine. At the business meeting Harvey C. Bundy, M.D., of Milo was recommended for Affiliate Membership in the Maine Medical Association and in the county society. A letter was read from the Penobscot County Medical Association, inviting the members to attend their regular county meetings; a special meeting being held on April 15.

The program for the evening consisted of an address by Thomas H. Palmer, Jr., M.D. of Bangor on "Acute Surgical Abdomens In Infants." Dr. Palmer gave a very thorough resume of this subject with practical, down-to-earth comments and suggestions.

LINUS J. STITHAM, M.D.
Secretary

YORK

March 12, 1958

In Honor of Dr. Kinghorn

Charles W. Kinghorn, M.D., of Kittery, who has served as secretary-treasurer of the York County Medical Society for over twenty-six years, was honored at this meeting at the Old Orchard Country Club, Old Orchard, Maine. Thirty-one society members and eight guests were present to congratulate Dr. Kinghorn and to enjoy with him the festivities of this occasion. A suitably inscribed desk set was presented to Dr. Kinghorn in recognition of his many years of faithful service to the society. Arrangements for this meeting, which included a social hour and dinner, were made by William F. Mahaney, M.D. William B. O'Sullivan, M.D., President of the county society, presided at the dinner meeting at which Roger J. P. Robert, M.D., presented the desk set to Dr. Kinghorn on behalf of the members. Francis A. Winchenbach, M.D., of Bath, President of the Maine Medical Association, and Daniel F. Hanley, M.D., of Brunswick, Executive Director, gave a few well chosen remarks.

At the business meeting, Philip P. Thompson, Jr., M.D., of Portland, M.M.A. delegate to the American Medical Association, spoke on "Social Security." A previous vote by the Society in favor of social security was rescinded and a vote against social security was passed.

The following members were present: Drs. Bacon, Barden, Charest, Downing, Drummond, Ficker, Fortier, Hill, Hoffman, Hopkins, Houle, Jacobson, Kinghorn, Larochelle, Leigh, Lesieur, Lincourt, Macdonald, Magaudda, Magocsi, Mahaney, Mayo, Moulton, O'Sullivan, Patane, Richards, Robert, Roussin, Vachon, Viger and Wolfahrt. Guests included, in addition to Drs. Winchenbach, Hanley and Thompson, Eugene H. Drake, M.D. of Portland, L. Dean Webber, M.D. of Kittery, Jack Dalton of South Portland, Capt. Backman, and Mrs. Esther M. Kennard, Secretary-Treasurer of the Maine Medical Association.

New Members

ANDROSCOGGIN

Daniel A. Rock, M.D., 477 Main Street, Lewiston

AROOSTOOK

Joseph H. Herson, M.D., Main Street, Patten

CUMBERLAND

Elio Baldini, M.D., 22 Bramhall Street, Portland
Douglas R. Hill, M.D., 855 Sawyer Street, South Portland
Howard P. Sawyer, M.D., 22 Bramhall Street, Portland
Guy N. Turcotte, M.D., 38 Deering Street, Portland
R. F. Turgeon, M.D., 836 Main Street, Westbrook
Maurice Van Lonkhuyzen, M.D. 31 Bramhall Street, Portland

OXFORD

John P. Lanni, M.D., Bethel

SOMERSET

W. Edward Jordan, Jr., M.D., 68 Water Street, Skowhegan

Deceased

CUMBERLAND

Elbridge G. A. Stetson, M.D., 17 Berry Street, Brunswick, March 3, 1958

Fred P. Webster, M.D., 101 Vaughan Street, Portland, February 26, 1958.

OXFORD

Raymond R. Tibbetts, M.D., Bethel, February 27, 1958

Necrologies

Leroy H. Smith, M.D.
1892-1957



Leroy H. Smith, M.D., who practiced medicine in the Winterport and Bangor area from 1919 until his retirement, died suddenly November 26, 1957.

Doctor Smith possessed a fine personality and was gifted with the ability and brilliance of an outstanding physician. He was often referred to as a physician's doctor, and his practice included consultation services in a wide area of the state, including his position as attending physician at the Eastern Maine General Hospital, where he served for many years, retiring in 1947 from active service. His leadership and respect were likewise shared by patients and fellow-townsmen as publicly expressed by the dedication of the Leroy H. Smith School by the citizens of Winterport in his honor.

Doctor Smith combined the standards of the well-trained scientific doctor of medicine with the virtues of the traditional American family physician, and in this capacity his advice and assistance were eagerly sought by patients and fellow-citizens. He was commonly entrusted with many problems of personal and public nature, and his cooperation was always unselfishly given. In this role as physician and confidant he held an enviable position in this area.

John J. Pearson, M.D.
Old Town

C. Capen Peaslee, Jr., M.D.
1900-1958

C. Capen Peaslee, Jr., M.D., 57, of Portland, died January 6, 1958.

Dr. Peaslee was born in Auburn, November 5, 1900, the son of Susan Hight Peaslee and the late Clarence C. Peaslee, M.D. He graduated from Edward Little High School, Bates College and received his medical degree from Yale University in 1927. He served his internship at Worcester City Hospital, Worcester, Massachusetts.

A member of the Maine Medical Association and the Cumberland County Medical Society, Dr. Peaslee was on the staffs of the Maine Medical Center and Mercy Hospital. He was a member of Tranquil Lodge No. 29, AF & AM, Auburn, Mt. Sinai Chapter, RAM, Portland Commandery, 32nd degree, Scottish Rites, Valley of Portland, Kora Temple Shrine, Lewiston, Kora Shrine Club, Portland and Alpha Kappa Kappa Fraternity.

Dr. Peaslee is survived by his mother; two daughters, Mrs. Elizabeth McDonough, Scarborough and Mrs. Eleanor Hodgdon, Stow, Massachusetts; and three grandchildren.

Francis W. Hanlon, M.D.
1904-1958

Francis W. Hanlon, M.D., 53, of Portland, died January 10, 1958.

Dr. Hanlon was born in Mexico, Maine, December 12, 1904, the son of Orville L. and Mildred W. Hanlon. He graduated from Stephens High School, Rumford, from Bowdoin College in 1925, and received his medical degree from McGill University College of Medicine in 1931. He did postgraduate work at Grassland Hospital, Valhalla, New York and at the Eastern Maine General Hospital in Bangor. He practiced medicine in Brunswick until 1936 when he went to Portland.

A member of the Maine Medical Association, the Cumberland County Medical Society, and the American College of Surgeons, he was on the staff of the Maine Medical Center.

A Commander in the Navy during World War II, Dr. Hanlon served in hospitals at Chelsea, Massachusetts and Norfolk, Virginia.

Dr. Hanlon is survived by his mother; a daughter, Elizabeth W. Hanlon; and two sons, Peter F. M. and Nicholas R. Hanlon, all of Montreal.

Ernest Thomas Young, M.D.
1892-1957

Ernest T. Young, M.D., 65, Millinocket, a Penobscot County Medical Examiner for many years, died December 23, 1957.

Dr. Young was born in Wiscasset, April 11, 1892, the son of John F. and Isabella Hamm Young. A graduate of Wiscasset Academy, Tufts College, and Tufts Medical School in 1921, he did postgraduate work at the University of Vienna, Austria.

A member of the American Medical Association, the Maine Medical Association and past president of the Penobscot County Medical Society, Dr. Young was also a member of the Bangor Medical Club, the Industrial Medical Association and the Regional Fracture Committee, American College of Surgeons. He belonged to the Maine Medico-Legal Society and the International Medical Association.

He was the first president of the staff of the Millinocket Community Hospital and a member of the staff of the Eastern Maine General Hospital. He owned and operated the Millinocket General Hospital.

Dr. Young was surgeon for the Great Northern Paper Company for 35 years and also physician for the New England Telephone and Telegraph Company and the Bangor and Aroostook Railroad as well as public health officer for Millinocket.

He was past president of the Millinocket Chamber of Commerce, a veteran of World War I, a member of Nollesenic Lodge, AF&AM, and the Necomen Society of America.

He is survived by his widow, Mrs. Doris Nickerson Young; a son, John T. Young of Baltimore, Maryland, and a grandson.

Chester L. Clarke, M.D.
1889-1958

Chester L. Clarke, M.D., 68, of Portland, died January 22, 1958.

Dr. Clarke was born in Minneapolis, Minnesota, April 11, 1889, the son of Dr. Frederick A. and Adella Marvin Clarke. He graduated from Hebron Academy, Bowdoin College in 1912 and New York Homeopathic Medical College and Flower Hospital in 1916. He did postgraduate work in the Homeopathic Hospital in Rochester, New York and Anne May Memorial Hospital, Spring Lake, New Jersey.

During World War I, Dr. Clarke enlisted with the Canadian forces but was assigned to the British army. When the United States entered the war he was transferred to the U. S. Medical Corps with the rank of major.

He practiced medicine with his father in Portland for many years.

He was a member of the Maine Medical Association, the Cumberland County Medical Society, Kappa Sigma fraternity and the Portland Cunner Club.

Dr. Clarke is survived by a sister, Mrs. William R. Jones of Damariscotta.

Announcements

Department Of Health And Welfare
Division Of Maternal And Child Health.
Including Services For Crippled Children

Orthopedic Clinics

Portland — Maine Medical Center
9:00 a.m.: April 24, May 12, June 9.
Lewiston — Central Maine General Hospital
9:00 a.m.: April 18, May 16, June 20.
Rumford — Community Hospital
1:30 p.m.: June 18.
Waterville — Thayer Hospital
1:30 p.m.: June 26.
Rockland — Knox County Hospital
1:30 p.m.: May 15.
Machias — Washington County Normal School
1:30 p.m.: April 2.
Presque Isle — Northern Maine Sanatorium
9:00 a.m. and 12:30 p.m.: May 13.
Fort Kent — Peoples Benevolent Hospital
10:00 a.m.: May 14.
Bangor — Eastern Maine General Hospital
1:00 p.m.: May 22. (Several will be two-session clinics)
Augusta — Augusta General Hospital
1:00 p.m.: April 24.

Cardiac Clinics

Portland — Maine Medical Center
9:00 a.m.: Every Friday (holidays excepted).
Bangor — Eastern Maine General Hospital
9:00 a.m.: April 11-25, May 9-23, June 13-27.

Cleft Palate Evaluation Clinics

Portland — Maine Medical Center
10:00 a.m.: May 20.

Pediatric Clinics

Bangor — Eastern Maine General Hospital
1:30 p.m.: April 25, May 23, June 27.
Presque Isle — Northern Maine Sanatorium
1:30 p.m.: May 21.
Waterville — Thayer Hospital
1:30 p.m.: April 1, May 6, June 3.

Clinics for Mentally Retarded Pre-School Children

Waterville — Thayer Hospital
9:00 a.m.: April 2, May 7, June 4.

American Academy of General Practice
State of Maine Chapter

The State of Maine Chapter, American Academy of General Practice will hold its first annual spring meeting at the Eastern Maine General Hospital in Bangor, Maine on Saturday, May 10. The scientific program will begin at 11:00 a.m. with an Orthopedic Clinic to be followed by lectures throughout the afternoon. Dinner and a dance will be held in the evening.

Film Reviews

The ninth annual publication of "Reviews of Medical Motion Pictures" is now available on request from the Film Library of the A.M.A. This publication is prepared by the Council on Scientific Assembly, Motion Pictures and Medical Television, and contains reprints of all film reviews published in The Journal A.M.A. during 1957.

New York University Post-Graduate Medical School

Seven courses will be given on a new summertime basis by the New York University Post-Graduate Medical School, it is announced by Dr. Clarence E. de la Chapelle, associate dean.

One of the courses, "Modern Methods in the Recognition and Treatment of Heart Disease," will be given for the first time and is designed to provide for the practicing physician both a review and modern knowledge on the newer diagnostic techniques, such as audio-visual auscultation, cardiac catheterization, angiocardiography and other special methods in diagnosis of all types of heart disease. Particular attention will be given to rheumatic and congenital heart disease and to the treatment of those conditions which are amenable to surgery. It will be given by Dr. J. Scott Butterworth, associate professor of medicine, on a full-time basis from June 23 through 25.

Other courses include the following:

Symposium on Modern Therapeutics in Internal Medicine
Full-time, 10 days, June 9-20

The Management of Chronic Kidney Disease
Full-time, 2 days, June 23 and 24

Acute Neurological Problems of General Practice
Full-time, 5 days, June 23-27

The Management of Hypertension
Full-time, 2 days, June 25 and 26

Review Course in General Medicine
Full-time, 10 days, July 7-18

Auscultation of the Heart
Full-time, 3 days, July 16, 17 and 18

For further information, write: Associate Dean, NYU Post-Graduate Medical School, 550 First Avenue, New York 16, N. Y.

TAKE A LOOK AT
NEW DIMETANE®
THE UNEXCELLED
ANTIHISTAMINE

Pineland Hospital and Training Center Pownal, Maine

Carl Hedin General Hospital — Red Room

April 24 — Clinical Pathological Conference (Death Review and Microscopic Demonstration) 11:00 A.M.

Cardiovascular Research Training Program at Medical College of Georgia

A one-year course intended to provide technical training in basic research methods for cardiovascular studies will begin July 1, 1958 at the Medical College of Georgia, Augusta, Georgia. Known as the Postgraduate Cardiovascular Research and Training Program, it will be under the joint sponsorship of the American Heart Association and the National Heart Institute of the U. S. Public Health Service.

Open to graduates holding M.D. or Ph.D. degrees or their equivalent, the program will be conducted under the direction of Dr. W. F. Hamilton, Professor of Physiology, and Dr. R. P. Ahlquist, Professor of Pharmacology, Thoracic Surgery and Medicine.

A stipend of $3800.00 plus $350.00 for each dependent and certain other expenses will be provided to trainees. Appointment is for one year. Applications may be obtained from either Dr. Hamilton or Dr. Ahlquist at the Medical College of Georgia.

Heart Association Scientific Sessions to Emphasize Physician's Use of Research Data

A program that will emphasize the practical application by physicians of findings made through cardiovascular research is being planned for the 31st Annual Scientific Sessions of the American Heart Association. The 1958 sessions, which mark the 10th anniversary of the Association as a national voluntary health agency, will be held at the Civic Center, San Francisco, from October 24-26.

Applications for the presentation of papers at the Scientific Sessions may be obtained from Dr. F. J. Lewy, New York 10, N. Y. Abstracts must be submitted before June 13, 1958.

American Congress of Physical Medicine and Rehabilitation

Two annual essay awards are being sponsored by the American Congress of Physical Medicine and Rehabilitation. The first is open to anyone, but directed primarily to interns, residents, graduate students in the pre-clinical sciences and graduate students in physical medicine and rehabilitation. The award for this essay is $200, and the deadline date for submitting manuscripts is June 2, 1958.

The second is the Bernard M. Baruch Essay Contest and is open to medical students only. The award for this essay is $100 and the deadline is June 2, 1958.

For rules and regulations write: American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

Dimetane®
(PARABROMDYLAMINE MALEATE)
TABLETS (4 MG.), ELIXIR (2 MG. PER 5 CC.) AND EXTENTABS® (12 MG.) UNEXCELLED POTENCY, UNSURPASSED THERAPEUTIC INDEX AND RELATIVE SAFETY. MINIMUM DROWSINESS AND OTHER SIDE EFFECTS. A. H. ROBINS CO., INC., RICHMOND, VIRGINIA. ETHICAL PHARMACEUTICALS OF MERIT SINCE 1878
Robins

American Goiter Association

The 1958 meeting of the American Goiter Association will be held in the St. Francis Hotel, San Francisco, California, June 17, 18 and 19, 1958. Hotel reservations must be secured by writing to Goiter Housing Bureau, Room 300, 61 Grove Street, San Francisco, California and be accompanied by a deposit of $10.00 per room.

The program for the three-day meeting will consist of papers and discussions dealing with the physiology and diseases of the thyroid gland.

Report of the Committee on Resident Loan Fund*
American College of Chest Physicians

Purpose of Fund:

To stimulate interest in postgraduate study of chest diseases, and to assist worthy postgraduate students in continuation of study in Diseases of the Chest (including diseases of the heart and lungs).

Rules and Regulations:

Eligibility: Any physician who has completed an internship of one year or more in an acceptable hospital may apply for a loan in order to continue study in the specialty of Chest Diseases. Such application shall be made on a form furnished by the American College of Chest Physicians.

Amount of Loan: The total amount of loan to any one student in any one year shall not exceed $1,000.00. Except under special circumstances the loan shall be made on a monthly basis of $80.00 per month for eleven months and $120.00 on the 12th month. Not more than $3,000.00 shall be loaned to any one student.

Repayment of Loan: For a period of not more than three years after the date of the first loan advance neither principal nor interest need be repaid on the loan provided the student shall continue his studies in postgraduate education in Diseases of the Chest. Should the student prior to this three year period engage in practice or discontinue his studies in Diseases of the Chest, he shall become obligated to make monthly payment on the loan of interest at the rate of 3% per annum, together with payment of principal in monthly installments in an amount of not less than 10% of the total loan during the first year and 20% during the second year and each year thereafter, provided, however, that the Resident Loan Fund Committee shall be authorized to modify this schedule both as to principal and interest when circumstances warrant. All monies repaid both as to interest and principal shall be returned to the Resident Loan Fund.

Security: Each loan shall be secured by a note bearing simple interest at the rate of 3% per annum. There shall be provision in the note for repayment as previously specified. Additional security in the form of assignment of Life Insurance shall be obtained where possible and premiums for this may be paid by the Resident Loan Fund. Premiums shall be added to the loan and constitute an obligation of the borrower, drawing interest at 3% and considered as part of the loan.

Jurisdiction over loans: The Resident Loan Fund Committee shall have absolute authority and full responsibility in selection of recipients of all loans, and shall have the responsibility of collecting repayments of loans and interest. All monies however, shall be held in the Treasury of the College and such monies as are not required for loans shall be invested by the College. Any interest from such investments shall be added to the Resident Loan Fund.

Perpetuation of the Loan Fund: In order to serve the purpose of maximum usefulness, the fund should be increased annually. It is recommended that the Resident Loan Fund Committee be authorized by the Board of Regents to solicit donations from the Fellows and Members of the College for the fund; also from local, State and National Tuberculosis and Health Associations, Cancer Societies and, private lay persons and corporations, and from any other source. Such gifts should be made to the College and ear-marked for the Resident Loan Fund so that they may be tax exempt and deductible from Federal income tax.

It is also recommended that the College contribute to the fund each year until the fund is well established and adequate to meet the needs and demands of all eligible applicants.

Publicity: The Resident Loan Fund Committee shall be authorized to publicize the availability of loans through the College journal and by personal communications with hospitals and medical schools, and other interested persons and organizations. Any costs for such publicity shall be defrayed by the Resident Loan Fund.

M. Jay Flipse, Miami, Florida, Chairman
David A. Cooper, Philadelphia, Pennsylvania
Theodore H. Noehren, Buffalo, New York

June, 1957

*Reprinted from the August, 1957 issue of Diseases of the Chest (Volume XXXII, Number 2).

Your one-stop direct source for the
FINEST IN X-RAY
apparatus . . . service . . . supplies

DIRECT FACTORY BRANCH
BOSTON
1256 Soldier Field Rd. • STadium 2-1100

RESIDENT REPRESENTATIVE
SOUTH PORTLAND
R. J. MARTIN
19 Chase St. • SPruce 9-0536

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, May, 1958 | Number 5

Malignant Tumors Of The Vulva

Leonard V. Crowley, M.D.*

Although it is recognized that the extent of the tumor at the time of treament is of greater prognostic significance than its histological type; nevertheless, the various types of vulvar malignancies vary greatly in their biologic behavior, and accurate classification of the neoplasm is a prerequisite to proper therapy.

Malignant tumors of the vulva are uncommon, constituting only about four per cent of all tumors of the female genital tract.[3-5] However, they are of considerable interest since their accessible location offers an opportunity for early diagnosis and prompt treatment. Histologically, a variety of malignant tumors has been recognized.[1,3,5,6,9,10,11] The majority are well-differentiated squamous cell carcinomas. Basal cell carcinomas, adenocarcinomas originating in Bartholin's glands, and melanomas are seen occasionally. Rare instances of sweat gland carcinoma, malignant lymphoma, leiomyosarcoma, and fibrosarcoma have been reported. Although it is recognized that the extent of the tumor at the time of treatment is of greater prognostic significance than its histological type; nevertheless, the various types of vulvar malignancies vary greatly in their biologic behavior, and accurate classification of the neoplasm is a prerequisite to proper therapy.

Because of its frequency, most interest has been centered on the relatively common invasive squamous cell carcinoma generally considered to be a disease of the older age groups. Recently, attention has been directed to the so-called "intra-epithelial" carcinoma of the vulva which differs in age incidence and biologic behavior from its invasive counterpart.[2,4,6,10] In contrast to the invasive squamous cell tumor, the *in situ* carcinoma characteristically affects a younger age group, often involves the vulvar epithelium diffusely or is multicentric in origin and carries an excellent prognosis when properly treated.

The present report is based on a study of 57 cases of vulvar malignant tumors.

Results

Table 1 indicates the types of neoplasm encountered. The majority of the tumors were invasive squamous cell carcinomas. In five cases, the neoplasm was entirely intra-epithelial and, in one additional case, intra-epithelial and invasive carcinoma co-existed. Two instances of metastatic carcinoma in the vulva, and single

TABLE 1

Malignant Tumors of the Vulva	
Type of Tumor	*Number of Cases*
Invasive squamous cell carcinoma	48
Intra-epithelial carcinoma	5
Basal cell carcinoma	1
Malignant lymphoma	1
Metastatic carcinoma	2

*Department of Pathology, University of Vermont and The Mary Fletcher Hospital, Burlington. (Part of this work was conducted in the Department of Pathology, Ohio State University, Columbus, Ohio)

TABLE 2

AGE DISTRIBUTION OF SQUAMOUS CELL CARCINOMA OF VULVA

	Number of Cases		
		Invasive	
Age Range	Intra-epithelial	Well differentiated	Poorly differentiated
30-39	2	2	3
40-49	2	3	1
50-59	1	5	1
60-69		11	2
70-79		11	5
80-90		4	

instances of malignant lymphoma and basal cell carcinoma were also encountered.

Most of the patients with invasive squamous cell carcinoma were in the older age groups (Table 2). There was no apparent correlation between the degree of histologic differentiation of the tumor and the clinical course. The most important factor of prognostic significance was the extent of disease at the time the diagnosis was established. In this series, there was no apparent relationship between neoplasia and venereal disease, contrary to the observation of other authors.[3] However, in about fifty per cent of patients with invasive carcinoma there was a history of leukoplakia, kraurosis, or other pre-existing vulvar disease of from 1 to 14 years' duration. This observation is consistent with the generally accepted concept regarding the precancerous nature of these lesions.

The initial complaints most commonly were pruritis or the presence of a genital ulcer or mass. In most of the cases, the time between onset of symptoms and diagnosis was less than one year; in fifteen patients the time interval exceeded one year. In part of this latter group, the disease was far advanced at the time treatment was instituted. In approximately 70 per cent of the cases, the tumor recurred locally one or more times following treatment, and in over 50 per cent of the cases the tumor also metastasized. Although the inguinal lymph nodes were the most frequent site of metastases, in a few cases there was widespread dissemination of the tumor.

Of the five cases in which the carcinoma was entirely intra-epithelial, the neoplasm was preceded by long-standing leukoplakia in three. However, in another case, the duration of symptoms prior to diagnosis was only six months. These patients were all treated by radical vulvectomy. In three of the patients an inguinal lymph node dissection was also performed. Multiple sections of the excised vulvas revealed widespread intra-epithelial neoplastic changes. Sometimes the intra-epithelial carcinoma was superimposed on leukoplakia involving the entire vulva. In all cases, the disease was much more widespread than was apparent grossly. No metastases were present in the excised inguinal lymph nodes, and there has been no recurrence to date in this group.

In the patient in whom an intra-epithelial carcinoma was found to co-exist with invasive carcinoma, there was a long history of itching and vulvar ulcerations before invasive carcinoma was diagnosed. It is possible that the long duration of symptoms may have represented pre-invasive carcinoma with eventual transition into invasive malignancy.

The patient with basal cell carcinoma had a vulvar mass of 14 years' duration which increased rapidly in size a few months before the patient sought medical attention. The neoplasm was treated by local excision and x-ray therapy. However, the tumor recurred, eventually metastasized, and proved fatal within two years after the diagnosis was first established by biopsy.

The case of malignant lymphoma[1] involved a *labium majus* of a thirty-three-year-old woman. Clinically, the lesion was considered to represent an inflammatory process, and the interpretation of the biopsy was difficult because of the extensive inflammatory reaction. The neoplasm was treated by excision and radiation therapy but recurred rapidly.

Two cases of metastatic malignancy were included in this series. In one instance, the patient was admitted to the hospital because of a discrete 1 cm. mass in the right *labium majus* which occurred six months after radical mastectomy for carcinoma of the breast. Biopsy of the lesion was diagnosed as a poorly differentiated adenocarcinoma. In view of the previous history of breast carcinoma, the vulvar neoplasm was interpreted as a solitary metastasis, and no additional surgery was performed. Subsequently, the patient developed evidence of metastatic disease in other areas. In the second case, a biopsy of a solitary lesion of the vulva was diagnosed as a poorly differentiated squamous cell carcinoma. This was also interpreted as a metastatic tumor since the patient had recurrent carcinoma of the cervix which involved the vaginal vault.

DISCUSSION

In this series, as in most reports, well-differentiated invasive squamous cell carcinoma was the most common malignant tumor of the vulva and behaved most aggressively. Intra-epithelial carcinoma was seen with only one-tenth the frequency of its invasive counterpart. This occurrence of noninvasive malignancy approximates that reported in the literature, ranging from approximately 7 to 10 per cent of all epithelial malignant neoplasms.[2,4,6,10] In contrast to invasive squamous cell carcinoma, intra-epithelial carcinoma occurred in a somewhat younger age group. It was more widespread than was apparent grossly and its extent could only be determined by careful examination of numerous sections from the resected vulva. Experience with the cases in this series suggests that vulvectomy alone with-

out lymph node dissection is adequate treatment for intra-epithelial carcinoma. This is in accord with the opinion of other authors.[8,9] However, intra-epithelial carcinoma and invasive carcinoma may coexist, as demonstrated in one of these cases, and this possibility must be kept in mind when interpreting biopsy material.

Although basal cell carcinoma of the vulva is generally considered to have a better prognosis than invasive squamous cell carcinoma, a review of the literature and our own experience suggests that such tumors arising in the vulva behave differently from basal cell tumors arising in other areas. The "benign" nature of the vulvar basal cell tumor has probably been overemphasized, since such tumors in this location often manifest extremely aggressive growth and not infrequently metastasize.[6,7,11]

The vulva may be the site of metastatic as well as primary neoplasms and, occasionally, the presence of a solitary vulvar metastasis may be the first sign of dissemination of the primary tumor. Metastatic adenocarcinoma in the vulva may be impossible to differentiate on morphologic grounds from primary adenocarcinoma arising in Bartholin's gland, or from sweat gland adenocarcinoma. The possibility of metastatic carcinoma of the vulva must be excluded before the diagnosis of primary adenocarcinoma can be established with certainty.

Summary

An analysis of 57 malignant tumors of the vulva is presented. The majority were well-differentiated invasive squamous cell carcinomas, and there was a high rate of recurrence and metastasis in this group. No correlation was observed between the degree of histologic differentiation of the squamous cell tumors and their clinical behavior. Intra-epithelial carcinoma comprised about one-tenth of all squamous cell carcinomas in this series. No recurrence or metastases were observed in this group. In one instance, intra-epithelial and invasive carcinoma coexisted.

Basal cell carcinoma arising in the vulva carries a worse prognosis than basal cell carcinoma of the skin.

Metastatic carcinoma may occur in the vulva, and must be differentiated from primary carcinoma arising in this area.

References

1. Buckingham, J. C., and McClure, J. H. Reticulum cell sarcoma of the vulva. Obst. & Gynec. *6:* 138, 1955.
2. Collins, C. G., Kushner, J., Lewis, G. N., and Lapointe, R. Non-invasive malignancy of the vulva. Obst. & Gynec. *6:* 339, 1955.
3. Frank, L. W., and Miller, A. J. Malignancy of the vulva. Am. J. Surg. *53:* 412, 1941.
4. Gardiner, S. H., Stout, F. E., Arbogst, J. L., and Huber, C. P. Intra-epithelial carcinoma of the vulva. Am. J. Obst. & Gynec. *65:* 539, 1953.
5. Graves, S. C. and Mezer, J. Malignancy of the vulva. Am. J. Obst. & Gynec. *43:* 1016, 1942.
6. Nowak, R. J. Basal cell carcinoma of the vulva. Obst. & Gynec. *4:* 392, 1954.
7. Siegler, A. M., and Greene, H. J. Basal cell carcinoma of the vulva. Am. J. Obst. & Gynec. *62:* 1219, 1951.
8. Smith, F. R., and Pollack, R. S. Carcinoma of the vulva. Surg. Gynec. & Obst.
9. Taussig, F. J. Cancer of the vulva. Am. J. Obst. & Gynec. *40:* 764, 1940.
10. Watson, J. R., and Counsellor, V. S. Carcinoma of the vulva. Surg. Clin. North America. *31:* 1079, 1951.

AMA ISSUES TWO NEW LEAFLETS

The personal, human qualities of medical practice are emphasized in two new American Medical Association leaflets designed for the general public. The first — "Do **You** Like to Make Decisions?" — states that the physician applies the "skill of his profession with the art of his understanding" in prescribing a specific treatment suited to the patient's individual needs. In selecting a particular treatment, the doctor is guided by his knowledge of the patient and his faith in his own judgment. The second leaflet — "The Fifth Freedom" — points out every American's basic right to choose not only where he will live or the church he will attend but also the physician in whom he has the greatest confidence. Free choice and mutual understanding are essential to the formation of a good doctor-patient relationship.

Both pamphlets are being distributed this month (May) to state and county medical societies for distribution at local fairs and similar public gatherings.

Anileridine Analgesia In Labor

Stanley J. Gross, M.D.,* June Katoh, M.D.* and
John Van S. Maeck, M.D.*

Despite the increasing prevalence of "natural childbirth" techniques, most patients do require analgesia in labor. That no one agent has proved to be entirely ideal is evidenced by the large variety in current use. At best a failure rate of approximately twenty per cent is anticipated.

Although numerous articles extolling the virtues of new drugs appear periodically, Demerol® remains the most widely accepted analgesic in obstetrics. Recently the authors have employed a new Demerol-like drug, Anileridine (aminophenethyl meperidine).** Basically it consists of the Demerol molecule with an added phenethyl group. Although detailed reports are not yet available, the resulting compound is said to be more potent than demerol without accentuation of untoward activity. Because of its apparent potency and low toxicity, evaluation for obstetric analgesia appeared to be of merit. The usual problems of multiple variables and subjective interpretation were encountered.

Materials and Method

The initial program comprised a total of 85 patients, service and private, in labor chosen at random. Intramuscular Anileridine was administered alone and in combination with other drugs. Dosage ranged from 25-50 milligrams. Supplementary Seconal® (100-200 milligrams) and scopolamine (0.3-0.6 milligrams) were occasionally given. The various regimens are summarized in Table I. Repeat medication was infrequent and appears in Table V.

Effective analgesia is difficult to evaluate in other than subjective fashion. Overall patient and physician grading of satisfactory or unsatisfactory was employed. Efficacy and untoward activity were considered in this fashion. Somewhat more objective evaluation of fetal asphyxia was achieved by the criteria summarized in Tables II, III, and VIII.

*Department of Obstetrics and Gynecology, University of Vermont College of Medicine, Burlington, Vermont.

**Supplied by Merck and Company, Incorporated, Rahway, New Jersey.

Observations

All patients had single pregnancies at term. Deliveries were spontaneous or low forceps. There were no maternal or fetal deaths. Approximately fifteen per cent received repeat medication without increased fetal depression (Table V). Approximately one-half of the patients were awake during delivery. Of this group, more than fifty per cent had only local anesthesia or whiffs of nitrous oxide (Table VII).

Group 1 (Anileridine Alone).

Maternal: Patients and physicians reported 84 per cent satisfactory results. Onset of effect and duration of analgesia was similar to Demerol. There were no side effects. Three primiparas had labor longer than 18 hours, and one multipara longer than 12 hours. This was not ascribed to analgesia. Almost all multiparas delivered spontaneously and primiparas by low forceps (Table VI). *Fetal:* Eighty-nine per cent were in category A (refer to Tables II and III), i.e., no asphyxia. One hundred per cent cried within one minute.

Group 2 (Anileridine & Seconal).

Maternal: Patients evaluation was 67 per cent versus 60 per cent by physicians. Seconal appeared to be a handicap in combination with Anileridine. One primipara and three multiparas had slightly prolonged labors. Medication was not implicated. All primiparas were delivered by low forceps and more than 70 per cent multiparas delivered spontaneously. *Fetal:* Eighty-seven per cent were in category A and 93 per cent cried under one minute (Tables VI and VIII).

Group 3 (Anileridine & Scopolamine)

Maternal: One hundred per cent of patients and 95 per cent of physicians considered this combination satisfactory. There were no prolonged labors in the group. Approximately 50 per cent spontaneous and

TABLE I

Medication Groups

Group	*No. of Patients*	*Medication*
1	19	Anileridine
2	15	Anileridine & Seconal
3	13	Anileridine & Scopolamine
4	38	Anileridine, Scopolamine & Seconal

TABLE II

CRITERIA AND DEGREE OF ASPHYXIA

	1	2	3	4
Heart rate	120-160	100-119 or 160 plus	75-99	under 75
Tone	spontaneous movements, resistance	intermediate	intermediate	no movement, complete flaccidity
Color	pink	intermediate	intermediate	dark purple or white
1st breath or cry	1 minute or less	2-3 minutes	3-5 minutes	5 minutes plus

50 per cent low forceps deliveries were recorded each for multiparas and primiparas. *Fetal:* Seventy-eight per cent were in category A and 100 per cent cried within one minute.

Group 4 (Anileridine & Seconal & Scopolamine).

Maternal: Ninety-five per cent patients and 90 per cent physicians found this combination acceptable. Seven multiparas had prolonged labor (Table VI). Sixty per cent primiparas and 69 per cent multiparas delivered spontaneously. *Fetal:* Sixty-six per cent were in category A. More than 25 per cent were in C-D. Seventy-nine per cent cried in less than one minute.

Thus no better maternal results were achieved when compared to Group 3 at the expense of increased fetal depression. Of the seven patients who received repeated doses, five babies were in category A and two in category C. Group 4 (Table V) patients had no greater incidence of general anesthesia than Groups 1-3 (approximately 50 per cent).

COMMENTS

Maternal efficacy ranged from 67 per cent (Group 2) to 100 per cent (Group 3). Anileridine alone proved to be almost as satisfactory as when employed in combination with seconal or scopolamine. Though difficult to apply an objective evaluation because of many variables, there seemed to be no evidence that Anileridine either prolonged labor or increased the incidence of operative deliveries. Untoward activity such as hypotension, gastrointestinal complaints were not manifested.

Intrauterine asphyxia can be due to many causes other than sedation and analgesia in labor. However, it may be of interest to note that 89 per cent of babies in Group 1 (Anileridine alone) as opposed to 66 per cent in Group 4 (Anileridine, Seconal, and scopolamine) disclosed no evidence of asphyxia. In the former group none were even moderately depressed whereas more than 40 per cent of babies in the latter group, despite no greater incidence of general anesthesia or more complicated deliveries, were in category C or 1.

TABLE III

CATEGORIES OF FETAL RESULT EMPLOYING CRITERIA DESCRIBED IN TABLE II

A = all signs rated 1
B = all signs rated 1 except a single 2 or 3
C = more than one sign rated 2 or 3 but none 4
D = at least one sign rated 4

TABLE IV

EFFICACY OF MEDICATION RATED BY PATIENTS AND PHYSICIANS

Group	*% Satisfactory Patient*	*% Satisfactory Physician*
1	84	84
2	67	60
3	100	95
4	95	90

TABLE V

REPEAT MEDICATION AND FETAL EFFECTS

Group	*Repeat 2 or more*	*Fetal Category*			
		A	*B*	*C*	*D*
1	3	2	0	1	0
2	2	1	0	1	0
3	1	1	0	0	0
4	7	5	0	2	0

TABLE VI

LENGTH OF LABOR AND DELIVERY

Group	Total Patients	LABOR						DELIVERY			
		12 hours or less		13-18 hours		19 hours or more		Spontaneous		Low forceps	
		PP*	MP*	PP	MP	PP	MP	PP	MP	PP	MP
1	19	3	9	3	0	3	1	1	8	9	1
2	15	3	6	2	1	1	2	0	8	5	2
3	13	1	11	1	0	0	0	1	6	1	5
4	38	5	26	0	3	0	4	2	19	3	14
Total	85	12	52	6	4	4	7	4	41	18	22

*PP—Primipara Patients
MP—Multipara Patients

TABLE VII

ANESTHESIA SUMMARY

	General	Whiffs N_2O	Saddle	Local or nil
No. Deliveries	44	15	17	9
Per Cent	52	18	20	10

TABLE VIII

FIRST CRY

Group	1 minute or less	2-4 minutes	5 minutes or more
1	19	0	0
2	14	1	0
3	13	0	0
4	30	6	2
Total	76	7	2

TABLE IX

SUMMARY OF FETAL RESULTS ACCORDING TO CATEGORIES OF ASPHYXIA

Group	No. patients	A	B	C	D
1	19	17	2	0	0
2	15	13	1	1	0
3	13	10	1	2	0
4	38	25	3	8	2
Total	85	63	5	15	2

CONCLUSIONS

1. Eighty-five patients in labor were medicated with Anileridine, a Demerol-like agent.

2. Satisfactory analgesia was achieved in 84 per cent with Anileridine alone, 67 per cent with Anileridine and Seconal, 100 per cent with Anileridine and scopolamine, and 95 per cent with Anileridine, Seconal, and scopolamine.

3. Maternal untoward activity was not observed.

4. Fetal asphyxia was minimal. Repeat medication did not increase fetal depression.

5. A favorable comparison with Demerol implies not only equal (i.e., smaller dosage) but also a greater analgesic effect and equal or lesser degree of untoward activity and fetal depression with the specific dosage employed. The present study suggests that Anileridine is at least as favorable as Demerol.

REFERENCE

1. Hingson, R. A., Hellman, L. M.: American Journal of Obstetrics and Gynecology, 68:262, 1954.

Experience With Epiduro-Arachnoidostomy†

LESTER J. WALLMAN, M.D.* AND R. M. PEARDON DONAGHY, M.D.*

Ever since physicians began to record accounts of their battles with disease other practitioners of the art have discovered with varying mixtures of surprise and annoyance as well as admiration that their own thought processes and improvisations had been approximated independently by others. John Locke,[1] when he was called to Paris in 1677 to attend the wife of the English Ambassador who was suffering in a bout of tic douloureux, brought to bear upon this problem as keen a mind and as high a degree of motivation as did Harvey Cushing over 200 years later. But Locke, although he winced with every paroxysm of that high-born lady's pain and burned many a candle writing to his colleagues in England for help and advice, did not have the advantage of Bell's demonstration of the function of the fifth cranial nerve nor the apparatus with which to approach it surgically. So he used "topical anodyne applications to those parts of her gums where the first beginnings of her fits appeare" and did provide some temporary relief until a remission fortunately supervened.

The problem of hydrocephalus is one in which the treatment is as yet far from satisfactory and in which generations of surgeons have discovered and rediscovered a wide variety of techniques for dealing with the excess of cerebrospinal fluid production over absorption which is the essence of the form of hydrocephalus which we wish to discuss. The infant who becomes ill with a progressively enlarging head and who is found to have large ventricles freely communicating with the subarachnoid pathways is a sad, familiar resident of the pediatric neurosurgical ward. The problem is not, however, limited to pediatric practice. Flooding of the subarachnoid pathways with blood, as in trauma to the head or the case of rupture of an aneurysm of the Circle of Willis, is often associated with increase in intracranial pressure which is at least partially due to interference with the cerebrospinal fluid absorptive mechanism. Infections such as meningitis similarly may block the pathways of fluid absorption. In most instances such lesions are reversible, and the patient may be tided over his intracranial hypertension by repeated lumbar puncture. There are times, however, when the hydrocephalus persists and in which some other form of treatment is necessary.

There is another group of cases increasingly reported by neurologists under the name "pseudo-tumor cerebri" or "benign intracranial hypertension." These patients show papilledema and increased intracranial pressure by lumbar puncture, but in them it is not possible to demonstrate intracranial masses. The condition is benign in that it usually subsides spontaneously, but there is often a serious threat to vision which demands treatment of the intracranial hypertension as a temporary measure at least.

In an excellent historical summary,[2] Fisher has shown in detail how since Quincke in 1891 twisted the lumbar puncture needle which he had devised and tried to promote a fistula into the epidural space, physicians have struggled to conduct this over-abundance of fluid away from the central nervous system. It is almost impossible to think of a space in the body to which some enterprising surgeon has not already tried to shunt this fluid, and yet advances are being made. We see that Heile reported in 1925 an anastomosis between the spinal subarachnoid space and the kidney pelvis, conducting the spinal fluid to the bladder where it could then be excreted. The operation never became popular until 1949 when Matson[3] presented a technical refinement. More striking, in Fisher's article, is a reproduction of an illustration from Payr who made an anastomosis between the ventricle and the jugular vein which functioned in at least one instance. It is only in the past few years that neurosurgeons have widely adopted this technique due to a major improvement worked out by Spitz and his associates.

Thus with this long and tortuous apology we are permitting ourselves to report another minor variation on Quincke's twist of the needle which has conveniently answered a need in two of our patients. (Figure 1.) The apparatus consists of a piece of polyethylene (intramedic PE 240) tubing 15 centimeters long. Multiple perforations are cut into two-thirds of its length. Through each of these holes a braid of twisted fine steel wire projects a distance of eight centimeters. Each branch of this wire tree is looped around the trunk to prevent slipping. At operation a laminectomy is done with exposure of the dura at L3. The end of the tube from which the branches of wire project is inserted into the epidural space in the direction of the patient's head. A small hole is made in dura and the other end of the tube is inserted into the subarachnoid space in a caudad direction. The tube is then anchored in position by a transfixing stitch placed at the point of perforation of dura. Each stainless steel filament then acts as a wick along which the spinal fluid is conducted toward a relatively large absorbing bed of epidural space. The wire excites a minimum of tissue reaction so that the process of walling off a foreign body is largely prevented.

---

†Based on a paper presented at the meeting of the New England Neurosurgical Society held in Burlington, Vermont, on March 1, 1957.

*Division of Neurological Surgery, University of Vermont College of Medicine.

Cases

Case 1: A woman, age 47, was severely injured in an automobile accident on December 27, 1954. She was treated at first in another hospital where a right craniotomy was done with removal of an intracerebral hematoma including some pulped temporal lobe. After a stormy course and prolonged coma she improved but developed bulging of her scalp flap and required either aspiration of her flap or a lumbar puncture each one or two days. When transferred to the Mary Fletcher Hospital on Febraury 19, 1955, she was in partial contact with her environment and it was noted that immediately after each drainage of her subarachnoid space she was a little brighter for a time. On May 6 a lumbar puncture was done using a Huber needle, and through this needle was threaded a length of braided steel wire leaving several centimeters of its distal portion in the soft tissues of the back. This provided relief of the hydrocephalus for a week after which the bulging of the scalp recurred. On May 25, 1955, the epiduralostomy tube described above was inserted by open operation. Her skull defect immediately became concave and remained so during the year she was observed after operation. She continued to be severely disabled from her brain injury, however.

Case 2: A 27-year-old mother of two, was admitted to the Mary Fletcher Hospital on November 14, 1956, because of headache and impaired vision of one month duration. She had bilateral papilledema. Skull x-rays, right carotid angiography, and ventriculography all failed to show evidence of a mass. There was some indication of renal disease, and it is not easy to decide whether or not she should be placed in the category of pseudo-tumor. At lumbar puncture her pressures varied between 500 and 600 millimeters of water, and frequent punctures were done with the removal of large amounts of spinal fluid in order to keep her pressure within normal limits. By December 28, her intracranial hypertension having persisted, an epiduralostomy tube was inserted by open operation. Ten days post-operatively the pressure was recorded as 320 millimeters of water and her vision and eye grounds were somewhat improved. A month later she was readmitted because of pain in her left lower extremity considered to be possibly due to irritation of nerve roots by the tube. On three days of bed rest the pain subsided and has not recurred. Her lumbar puncture pressure in May was 270. She has remained well up to her last out-patient visit in September of 1957.

Comment

It is apparent that in both of these cases the process of increased cerebrospinal fluid accumulation may have reversed itself spontaneously. In both instances, however, it was felt that by the time of operation there was no indication that the process would subside, and we feared delaying a possibly definitive procedure any longer.



(Figure 1.)

The operation presently described has the advantage of very little risk, and it does not in any way preclude the use of a more elaborate procedure if it should fail.

It will not escape the notice of neurosurgical readers that we have so far omitted mention of the use of this procedure in infants. We have, in fact, tried something similar in three of them with indifferent success. All three were babies with myelomeningoceles, and thus the procedures had to be done in the dorsal or cervical region. We also were faced with variations of the Arnold-Chiari malformation which had to be dealt with separately. The epidural space in an infant is quite different from that of an adult, and does not present as good a surface for absorption. This, taken with our satisfaction so far with the Spitz operation of venticulojugular anastomosis, has kept us from doing more with it in hydrocephalic infants.

Summary

A technical variation in the surgical treatment of hydrocephalus has been presented. It is adapted particularly to use in adults.

References

1. Dewhirst, K., A Symposium on Trigeminal Neuralgia, Journal of the History of Medicine XII, pp. 21-36, 1957.
2. Fisher, R. G., Chapter on the Surgery of Congenital Anomalies in A History of Neurological Surgery edited by Walker, A. E., The Williams and Wilkins Co., Baltimore, 1951.
3. Matson, D. D., A New Operation for the Treatment of Communicating Hydrocephalus, Journal of Neurosurgery VI, pp. 238-247, 1949.

Tuberous Sclerosis†

Case Report

HUNTINGTON MAVOR, M.D.* AND GEORGE A. SCHUMACHER, M.D.**

To date, no agreement has been reached as to the pathogenesis of tuberous sclerosis. The disorder is congenital and strong heredofamilial tendencies are present. Two major hypotheses are (1) that it is a disorder of prenatal development, i.e., of embryogenesis (blastomatous in origin), or (2) that it is actually a slowly progressive neoplastic process.

Tuberous sclerosis or epiloia, one of several recognized neurocutaneous syndromes, has as its outstanding manifestation the triad of convulsive seizures, mental deficiency, and skin lesions. The most characteristic of the latter are the nodulopapular excrescences of the face referred to as adenoma sebaceum. Bourneville, after whom the disease is also named, first described the condition in 1880.[1] Over 450 cases have been reported thus far.[2] The incidence appears to be about 2 per 100,000 in the general population. In hospitals and colonies for the epileptic, the incidence among new admissions appears to be approximately 1 in 200.[3]

To date, no agreement has been reached as to the pathogenesis of tuberous sclerosis. The disorder is congenital and strong heredofamilial tendencies are present. Two major hypotheses are (1) that it is a disorder of prenatal development, i.e., of embryogenesis (blastomatous in origin), or (2) that it is actually a slowly progressive neoplastic process. One view has held that tuberous sclerosis and neurofibromatosis are similar, the former a central, the latter a peripheral neurospongioblastosis.[1] Pathologic studies have shown that abnormalities, developmental, degenerative, and neoplastic are found not only in tissues of ectodermal origin, such as brain and skin, but in tissues and organs of mesodermal origin as well. The changes described in numerous reported examples have not, however, all been found in any one case. Dysplasias or tumor formations involving skin, subcutaneous tissue, brain, retina, bone and kidneys have been frequently encountered, clinically and at autopsy.

Attention to the disease is usually called by the occurrence of convulsive seizures of both the major, generalized type and the minor petit mal variety early in life. The co-existence with convulsions of mental deficiency and the characteristic butterfly distribution of small skin nodules spreading from the nose over the cheeks, and usually also involving chin and forehead, is sufficient to make the diagnosis. Additional study almost always reveals other findings supporting this diagnosis.

Case Report

A 37-year-old white indigent woman was admitted to the Neurology Service of the DeGoesbriand Memorial Hospital on July 16, 1957 in status epilepticus. The history obtained on admission from an apparently mentally deficient male companion of the patient was meager and unreliable. However, the patient apparently had had intermittent convulsive seizures for many years treated with Dilantin® capsules, one twice daily, for some time. This medication had been omitted for two days prior to admission. The onset of repetitive seizures occurred approximately one to two hours prior to admission while the patient and her companion were en route through a neighboring Vermont town.

Physical Examination: The temperature was 102°F, the pulse rate 108 per minute, the respiratory rate 20 per minute, and the blood pressure 120/76 mm. Hg. The patient was a malnourished and dehydrated, semicomatose, unkempt, white woman whose age was difficult to estimate. When first seen in the Emergency Room she was having successive focal and generalized convulsive seizures consisting of tonic and clonic movements of the right upper and lower extremities, with occasional spread to the left, associated with apnea, cyanosis and followed by hyperpnea, coma, and widely dilated, unreactive pupils. The seizures were controlled with a total of 910 mg. of sodium phenobarbital intravenously in divided doses over a two hour period prior to her admission to the ward. Examination of the skin showed a 1.5 by 1.5 cm. firm, indurated, sessile papil-

†From the DeGoesbriand Memorial Hospital and Division of Neurology, University of Vermont College of Medicine, Burlington, Vermont.
*Senior Resident Neurologist, University of Vermont Affiliated Hospitals.
**Attending Neurologist, DeGoesbriand Memorial Hospital.



PLATE 1. Large epidermoid inclusive cyst adjacent to nose and smaller nodules of adenoma sebaceum on cheek and chin.



PLATE 2. Periungual papillomas about right great toe.

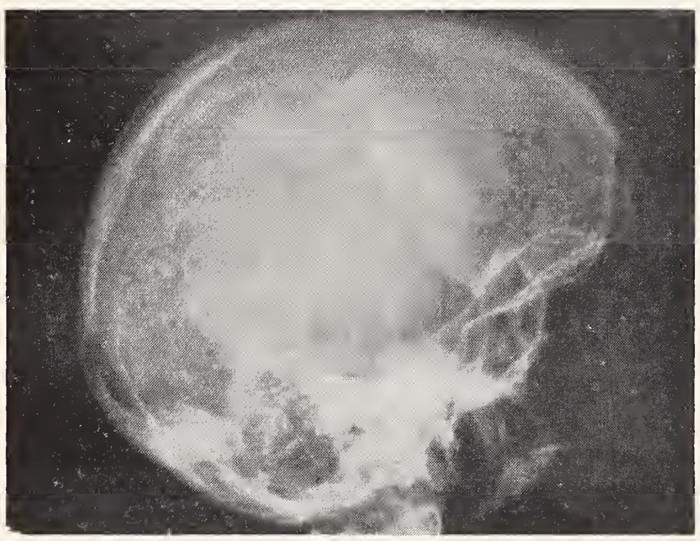


PLATE 3. Skull x-ray, left lateral view, showing multiple calcific masses of the brain in the basal regions.

loma in the left nasolabial fold with many small papulonodular adenomatous lesions on the nose, in the nasolabial folds, and over the chin (Plate 1). There were several peri-ungual, firm, papillomatous skin tags about the toenails (Plate 2). Numerous small, slightly raised, light brown, pigmented areas 1 cm. in diameter were present over the back and one slightly larger area over the left flank and in the lumbar region. Aside from complete edentia, the general physical examination was otherwise unremarkable.

Neurological Examination: In the post-ictal state, following 910 mg. sodium phenobarbital intravenously, the patient was stuporous, responding only with facial grimacing and slight withdrawal to pin prick on the face and extremities. Fundi and pupils were normal. There was generalized increased resistance to passive stretch of the limb muscles, hyperreflexia, bilateral ankle clonus, and bilateral extensor toe responses. The patient moved all of her extremities on pain stimulation.

Laboratory Data: The admission hemogram revealed 18,350 WBC per cmm., 93% polymorphynuclear cells, and Hbg. 12.7 gm.%. The corrected erythrocyte sedimentation rate was 50 mm. per hour. Admission urinalysis was indicative of a mild urinary tract infection. The urine culture was positive for proteus rettgerii. Smears, culture, and quinea pig innoculations for acid fast bacilli from the urine were subsequently negative. The tuberculin test (PPD #2) was only mildly positive. Serum electrolytes were non-contributory. The blood urea nitrogen fell from 22 mg.% on admission to 12 mg.% two weeks later.

Spinal puncture on admission revealed an initial pressure of 120 mm. of clear, colorless cerebrospinal fluid and a closing pressure of 68 mm. The CSF cell count was 28 RBC per cmm, the protein content 37 mg.%, Pandy and Kolmer tests negative. An electroencephalogram two days following admission showed a grossly abnormal record with low voltage frequencies of 1.5 to 5.5 cycles per second throughout with much shifting of the slow components from one region to another. Peripheral visual fields were intact by perimetry.

Routine stereoscopic skull x-rays showed numerous intracerebral areas of radiopacity (Plates 3 and 4) predominantly in the region of the basal nuclei and ventricular system. These varied from 0.9 cm. to 0.3 cm. in diameter. Pneumoencephalogram demonstrated that several of the areas, presumably calcific in nature, projected into the lumens of the lateral ventricles including at least one temporal horn. Slight enlargement of the ventricular air shadows and subarachnoid spaces raised the question of minimal cerebral atrophy.

X-rays of the hands revealed small areas of rarefaction in the bony terminal phalanges of the right middle and fourth fingers (Plate 5). Chest films and an intravenous pyelogram showed no evidence of tuberculosis or tumor. A large walnut sized calcification was seen within the soft tissues anterior to the fifth lumbar vertebral body and was thought to be either a calcified mesen-

teric node or calcium deposited into an old cold abscess.

The large papillary lesion in the left nasolabial fold was resected. The pathologic report indicated excessive numbers of sebaceous glands with epidermoid inclusion cysts. Biopsy of one of the tiny adenomatous chin lesions showed excessive numbers of sebaceous glands. Biopsy of a peri-ungual skin tag on the toe revealed merely excessive keratinization.

Course in the Hospital: The presence of facial skin lesions resembling adenoma sebaceum, convulsions, and the deteriorated state suggesting mental retardation, suggested a diagnosis of tuberous sclerosis. The neurologic signs were consistent with the post-ictal state. The focal nature of the seizures pointed to a left cerebral source of irritation. Cerebral neoplasm and central nervous system infection were also considered as possible lesions though less likely. Fever was thought to be more probably secondary to dehydration and/or a non-central nervous system infection.

Following large initial doses of sodium phenobarbital to control status epilepticus, the patient was maintained on intramuscular injections of Dilantin 100 mg. twice daily and sodium phenobarbital 30 mg. four times daily without the further recurrence of seizures. She regained a full state of consciousness between the second and third hospital days at which time further examination revealed definite evidence of mental deficiency. There was a decrease in the generalized hyperreflexia but persistence of the bilateral extensor toe responses.

The Wechsler-Bellevue test on the day of discharge resulted in a full scale I.Q. of 58, a verbal scale of 61 and a performance scale of 64. At the end of the patient's hospital stay it was learned that she and a male companion had absconded from a poor farm in a neighboring state. The patient admitted intermittent convulsive seizures throughout her life. Hints of a familial incidence were obtained in that her son suffered from "spells," had never been able to attend school, and had been "put away" one year prevjously at the age of 18 years. The patient was discharged to the care of the local welfare authorities three weeks after her admission.

Pathology

The brain in epiloia reveals grossly firm white nodules at the surface as well as deep in the cortex. Similar foci appear in the subcortical white matter. Tumor nodules may project into the ventricular cavities. Less often, nodules are also found in the basal ganglia, brainstem, and cerebellum. Microscopically the cytoarchitecture of the cortex is disturbed in the regions between gliotic nodules, with abnormal giant or monster ganglion cells, bizarre, polymorphous giant astrocytes, excess oligodendroglia, degenerative changes in both ganglion and glial cells and areas of demyelination of nerve fibers. Heterotopic clusters of abnormal ganglion cells appear in the subcortical white matter. Small deposits of calcium may be present in the tuberous nodules. Paraventricular tumors, usually in the hypothalamus, have been reported with characteristics of glioblastoma multiforme or neurofibroma. Small tumors in the retina, termed "phakomas" by van der Hoeve,[5] have shown astrocytic or astroblastic cells with gliosis, resembling nodules in the brain. The skin lesions consist of a variety of formations, the most common being the adenoma sebaceum of the face. These may be true tumors of



PLATE 4. Skull x-ray, antero-posterior (Towne) view, showing the bilateral distribution of the calcified brain nodules.



PLATE 5. X-ray of the hands showing cyst-like rarefactions in the distal phalanges of the 3rd and 4th fingers of the right hand.

the sebaceous glands, or merely hypertrophied glandular structures, 1 to 3 mm. in size. Other skin lesions are referred to under clinical features below. Visceral involvement consists of fibroadenomas of the kidney occurring reportedly in 80% of the patients. Ross and Dickerson[3] citing Hyman[6] in the latter connection state that in all three of their autopsied cases tumors were found consisting of a conglomerate proliferation of various mesothelial elements — striated muscle, fat, fibrous tissue and blood vessel components. Rhabdomyomas of the heart have also been reported. The bones have revealed fibrocystic areas, hyperostosis (rheostosis) and other osseous changes.

Clinical Features

Family History: A high incidence of familial neuropathic stigmata have been found in the relatives of patients with tuberous sclerosis, including epilepsy, mental retardation, personality disorders and neurocutaneous syndromes.

Mental State: The vast majority, but not all patients, are retarded. All grades of mental deficiency have been described including idiocy with complete helplessness.

Neurologic Manifestations: Aside from mental defect and convulsions, surprisingly few signs of neurologic dysfunction are present in most patients despite the extensive pathologic alterations in the central nervous system. Occasional focal signs, such as spastic hemiparesis, have been reported,[3] but in general the neurologic examination is negative. Convulsive disorder occurs in most, but not in 100% of patients.

Dermatologic Manifestations: Facial adenoma sebaceum in butterfly distribution has already been referred to. Other skin lesions[7] are cafe-au-lait spots, whitened areas of skin depigmentation or vitiligo, papillomas, moles, nevi, port-wine stains, and fibrotic nodules. Occasionally a minute pinkish rash is seen which is fibroangiomatous or rosaceaform. Numerous cases of "shagreen" areas or roughened, shark-like skin, especially in the lower back, have been described. Periungual skin tags or small filliform papillomas are not uncommon in this disorder.

Congenital Anomalies: Less frequently associated lesions are hare-lip, cleft palate, myelodysplasia, spinal anomalies including spina bifida, polydactyly and pescavus.

Visceral Tumors: In Ross and Dickerson's series of 25 patients,[3] four had palpable masses in the region of the kidneys. In three these were bilateral. In nine of seventeen patients the execretory pyelograms were abnormal. In three of the patients with palpable tumors severe pyelonephritis was found. In three patients bilateral renal tumors were found at autopsy. These consisted of multiple small masses and cysts of complex histologic structure considered to be rhabdomyomas, or angiolipofibromatous neoplasms identical with others reported in the literature.

Roentgenographic Findings and Osseous Lesions: Skull x-rays reveal in many patients the small, bilateral calcific radiodensities indicative of the sclerotic brain nodules. In addition, the skull bone itself shows a characteristic change in a proportion of patients. This is in the form of fleecy, flaky, or plaque-like calcifications scattered throughout the cranial vault and thickening of the tables. Berland[2] has reviewed the literature and presented examples of these changes and changes in the bones of the hands and feet. The latter consist of (1) cyst-like rarefactions in the distal phalanges with or without osteoporosis, (2) irregular cortical thickening of the metatarsals, metacarpals or phalanges without periosteal reaction, and (3) a mixed type, consisting of cortical thickening with fragmentation. Berland states the changes in the bones of the hands and feet occur in 65% of cases and those of the skull and extremities together in 60% to 65% of cases. He attaches pathognomonic specifity to the latter combination.

Relation to Other Neurocutaneous Syndromes: The possible connection with multiple neurofibromatosis (von Recklinghausen's disease) has been mentioned. The other condition with which epiloia has been linked is that of encephalotrigeminal angiomatosis (Sturges-Weber syndrome) or port-wine stain of the face with associated cerebral angioma. No proof of related pathogenesis is at hand, though Ross and Dickerson[3] present a logical thesis that all three conditions are on the basis of developmental tissue dysplasias.

Therapy

No specific therapy for the basic disease process is available. The usual anticonvulsants are employed to counteract seizure activity. Such anticonvulsant medications have probably a lower rate of therapeutic benefit in patients with epiloia than in individuals with essential epilepsy.

Summary

A 37-year-old white married female patient is reported presenting the triad of (1) mental deficiency, (2) adenoma sebaceum, and (3) convulsive disorder characteristic of the syndrome of tuberous sclerosis or epiloia. The patient exhibited numerous other manifestations typical of this syndrome, namely, (4) additional skin lesions consisting of epidermoid inclusion cyst of the face, pigmented nevi in the trunk, and periungual filliform polyps about the great toenails, (5) multiple calcified lesions of the brain by x-ray, (6) cyst-like rarefactions in the terminal phalanges of the fingers radiologically, and (7) a family history of probable neuropathic stigmata.

Other studies of this problem are alluded to, including those emphasizing features (renal and osseous involvement) not as commonly recognized. The dysplastic and neoplastic features of the disorder and other conditions of prenatal anomalous development with abnormal growth potential possibly related to tuberous sclerosis are cited.

Continued on page 185

A Description Of The Family Care Unit

University Of Vermont College Of Medicine

JOHN LANTMAN, M.D.*

On July 1, 1957 the University of Vermont College of Medicine opened its Family Care Unit. While the idea of Family Care Plans is not new there are some things about this Unit which make it unique. In this brief article an attempt will be made to describe this Unit.

The Family Care Unit is in the division of General Practice which is a division of the Department of Preventive Medicine in the University of Vermont College of Medicine. The Famly Care Unit functions as both a teaching and a service Unit. Its teaching program primarily involves the Senior Medical Student. The Unit is located in downtown Burlington and is rather centrally located and easily accessible for many of its patients.

One of the prime functions of the Family Care Unit is to serve as a demonstration of general practice. In keeping with this objective the physicians who work and teach in the Unit are all General Practitioners. These men all have active practices in Burlington or the surrounding towns and have appointments in the College of Medicine. The teaching schedule is such that these practitioners work one half day a week for approximately three months out of the year.

PATIENTS

Patients accepted for treatment must be medically indigent. The majority of patients seen in the office of the Unit are residents of the City of Burlington (population of approximately 37,000). There are, however, numerous patients coming into the Unit from small towns (1,000 population) and rural areas. House calls are limited to persons residing within the City of Burlington. Referrals to the Family Care Unit are made by the physicians in the area, social agencies, and area hospitals. Many of the families treated by the Unit were treated in the past by the Family Care Unit predecessor, the Burlington Free Dispensary. Patients from all age groups are seen in the Unit.

STAFF

In addition to the physicians who teach in the Unit, on a voluntary basis, there are on the staff the following health personnel; the Director of the Family Care Unit (a General Practitioner who presently works half time and as of July 1, 1958 will be full time), a Resident Physician (at present a Resident in an Internal Medicine program of one of the local hospitals but eventually the position will be filled by a Resident in a general practice program sponsored jointly by the Family Care Unit and one of the local hospitals), a General Practitioner who works half time in the Unit, a Medical Social Worker, a Public Health Nurse, a Nutritionist, and a Health Educator with faculty appointments in the College of Medicine. As these various disciplines work with the students and patients, much emphasis is placed on the team approach. Such an approach necessarily demands frequent conferences between individual members of the staff, between students and staff, and between the Family Care Unit and other interested community agencies.

The Family Care Unit has two broad objectives: to provide comprehensive medical care; to demonstrate the general practice of medicine.

OPERATION OF FAMILY CARE UNIT

The Family Care Unit is operated as nearly as possible like the practice of a General Practitioner. Office hours are by appointment, however provisions have been made for handling the emergencies and patients suffering from conditions which are acute or of sudden onset can be seen in the office without long waits for appointment. Office patients are seen first by the Senior Medical Student who elicits the history, performs the physical examination and then formulates the diagnosis and treatment. The student then confers with the attending physician who sees the patient. Then the final diagnosis and proper therapy is discussed. At this point other members of the staff may be involved in the discussion if a need exists. In addition to the patients seen in the office a large number of patients are seen in their homes. House calls during the day are made by the physician with the student or students accompanying him. The student takes the initiative in the home making the examination, formulating a diagnosis, and in prescribing therapy. At night and during a part of the week-end house calls are made by the students. During

*Director, Family Care Unit, University of Vermont College of Medicine, Burlington, Vermont.

Much emphasis is placed on the preventive aspects of medicine as they may be applied to the total family.

these evening and week-end hours the responsible physician is readily available to consult either by phone or to actually see the patient if necessary. Through this experience in the home and in the office the student gets to see a wide variety of diseases as they occur in all age groups. This experience also demonstrates to the student that good medicine can be practiced in the home and that with proper use of the facilities available patients can often be treated as well in the home as in the hospital.

Facilities

The arrangement and equipping of the office itself were done with the thought in mind that it should be comparable to the office of a General Practitioner. In the reception room are the desk of the Secretary and the Nurse. The waiting room is attractively furnished and decorated. Furniture for both adults and children is used. It should be pointed out that much help in the decoration and furnishing of the Unit was provided by the Auxiliary of the Family Care Unit. There are three examining rooms and one minor surgical room. The laboratory and drug room (nearly all medications are dispensed) are combined; and sterilization of equipment is done in this room also. The laboratory is set up to do routine urinalysis, haematology, and the more frequently used blood chemistry studies. Facilities for x-ray and electrocardiography are also available. Only those x-rays which the Staff Physician feels he can interpret with a fair degree of accuracy are taken. An attempt is made to teach the student the proper use of x-ray in a general practice. All x-rays taken are further studied by a radiologist in one of the local hospitals. It is of significance and unique that the Medical Social Worker and the Nutritionist have their offices on the same floor as the Physician's office, the examining rooms and diagnostic facilities thus making it easy for student and patient contacts by these important team members. The Public Health Nurse, as mentioned earlier, acts as the Nurse in the Unit and thus her close contact with patient and student is assured.

The filing system for patient records is also unique. The records of all patients in a family, or household, are kept in a family jacket and this family jacket is filed alphabetically according to the name of the head of the family. Each family jacket contains a family face sheet on which is recorded material pertinent to all members of the family.

Another unique feature of the Family Care Unit is its location in the same building with four other important agencies. These agencies are The Visiting Nurses Association, The State of Vermont Alcoholic Rehabilitation Commission, the University of Vermont Mental Health Clinic and the Child-Family Counseling Service. Because of the close proximity of these other agencies, conferences to discuss common patient problems are easily facilitated.

Student Participation in the Family Care Unit Program

The Family Care Unit program is scheduled as part of the students ambulatory medical service. This service is of three months duration, and during it the student rotates on a daily basis between the Family Care Unit and the out-patient departments of the two local hospitals. The philosophy behind such rotation is that it provides the student an opportunity to see the patient in his home environment and then if further work-up or follow-up is necessary the patient may be seen in the office at the Unit and eventually, if necessary, the same student would see the same patient in the specialty clinic in one of the local hospitals out-patient departments. In the Unit an effort is made to schedule revisits in such a manner that one student follows the same patient for as long a time as possible.

Another phase of the student's program in the Family Care Unit is a Family Study Program. This program is carried on simultaneously with the program as described above. Each student is assigned a family which has been chosen for study by the staff of the Unit. These families are medically indigent and have been known and treated by the Unit for varying periods of time prior to their selection as study families. No rigid criteria are used in making these selections of families by the Unit staff, however an effort is made to find families who will be cooperative, and families with known medical, social or nutritional problems are particularly desirable. The student is introduced to the family at the beginning of his three month service. Prior to the students introduction to the family, the family has been visited by the Director of the Unit and the program has been explained to them and the family has accepted the invitation to participate. For the next three months the student acts as the family's physician. The student institutes a program of comprehensive medical care. This includes histories, physicals and routine laboratory studies on all members of the family. The student is urged to get to know the family well enough so that he is aware not only of the medical problems but also the nursing, social, economic, nutritional and psychological problems which might exist. In working with these families, the student has available the services of the Family Care Unit staff, that is the social worker, the nutritionist, the public health nurse and the physician. In some cases the member may only consult with the student concerning a problem while in other cases it may be necessary for the member to make a visit to the home of the patient in order to provide direct service to the family or in order to be able to better advise the student concerning the problem. Much

emphasis is placed on the preventive aspects of medicine as they may be applied to the total family.

To encourage the student to make use of the Family Care Unit's staff as problems arise an informal meeting is held early in the student's service so that student and staff may discuss any problems that are known to exist within the family at that time and also to discuss ways in which solutions might be sought. This meeting also provides an occasion for the staff to point out to the student some of the resources that are available in the community and how they might be used in solving some of the families' problems. Toward the end of the three-month service a seminar is held. At this seminar the student describes his family, including in this description, medical, economic, social, nutritional and psychological aspects. This account could also include any action the student took as problems arose within the family. Following this description, there is discussion by all people present at the seminar centering around this family and its problems. This discussion of the family often leads the group to a discussion of such subjects as; doctor-patient relationships, what should be the doctor's role in promotion of certain community health activities, what community facilities can a physician in a small rural town make use of in treating patients, and how does the General Practitioner apply principles of Preventive Medicine. The seminar usually produces some suggestions by the group as to how some of the families' problems may be solved. Taking part in the seminar in addition to the staff and the students are two members of The Visiting Nurses Association (if possible, one of these members is the nurse who has been following the family) and invited guests from other social agencies who have worked with the family.

In addition to the seminar, a pre-seminar and post-seminar conference are held by the staff of the Family Care Unit. The pre-seminar conference is usually held on the day preceding the seminar and at this meeting staff members are made aware of any recent events occurring in the family and some rather broad objectives for the seminar may be discussed. The post-seminar meeting is held immediately after the seminar is concluded. The Health Educator leads this meeting and comments (favorably or otherwise) on the educational value of the particular seminar. The Health Educator often points out how the team might have been more effective. Other staff members may comment and are helpfully critical of their own and others role in the particular seminar. Prior to the students leaving the service informal conferences may occur between student and staff members for the purpose of discussing questions raised but not answered completely in the seminar. One member of the staff is then assigned to act as liaison between the family and the Family Care team.

Objectives of Family Care Unit

The Family Care Unit has two broad objectives: to provide comprehensive medical care; to demonstrate the general practice of medicine. As this type of care with emphasis on prevention of disease is applied to an ever increasing number of our families we feel that their level of health will rise, that total medical cost will be decreased and some of our families will be encouraged to use the facilities of the private physician. We believe the program in the Family Care Unit is of value not only to the student interested in general practice but also to the student interested in a specialty since the experience does give some idea of the nature and type of problem experienced by the General Practitioner. The Family Care Unit setting provides a fertile field for the study of many problems peculiar to general practice. At this time other studies are being considered and soon will be undertaken.

TUBEROUS SCLEROSIS — *Continued from page* 182

References

1. Bourneville, D.: Sclereuse tubereuse des circonvolutions cerebrale: idiotie et epilepsie hemiplegique. Arch, neurol. *1:*81-91, 1880.
2. Berland, H. I.: Roentgenological Findings in Tuberous Sclerosis. Bone Manifestations. Arch. Neurol. & Psychiat. *69:* 669-683 (June) 1953.
3. Ross, A. T. and Dickerson, W. W.: Tuberous Sclerosis. Arch. Neurol. & Psychiat. *50:* 233-257 (Sept.) 1943.
4. Bielschowsky, M.: Ueber Tuberose Sklerose and ihre Beziehungen Zur Recklinghausenschen Krankheit. Zentralb. f.d. ges. Neurol. u. Psychiat. *26:* 133, 1914.
5. van der Hoeve, J.: Eye Symptoms in Phakomatoses: Tr. Ophth. Soc. U. Kingdom *52:* 380-401, 1932.
6. Hyman, A.: The Association of Hypernephroma with Tuberose Brain Sclerosis and Adenoma Sebaceum, J. Urol. *8:* 317 (Oct.) 1922.
7. Butterworth, T., and Wilson, McC., Jr.: Dermatologic Aspects of Tuberous Sclerosis, Arch. Dermat. & Syph. *43:* 1-41 (Jan.) 1941.

Common Questions In Ophthalmology

JOHN C. CUNNINGHAM, M.D.*

Some of the everyday ocular questions of interest to the general practitioner will be presented in this paper. A short answer will follow, incomplete in detail, but at least a signpost for the busy practitioner.

What Ocular Instruments Are Needed? An ophthalmoscope with a good light source; a pocket flashlight with well-focused light; a small, dull spud; small cotton applicators; a magnifying loupe; and a tonometer. The usual Snellen Chart for distant vision plus a reading card for small print are necessary. A small book containing color charts plus a home-made Tangent Screen for field tests are not essential but helpful.

What Medications Are Needed? Two per cent Fluorescein solution to outline epithelial breaks of the cornea, one per cent Peredrine® to dilate the pupil for funduscopic study in adults, two per cent Homatropine solution for the same study in children, one-half per cent Pilocarpine to be used to reduce the previously dilated pupil and finally antibiotic solutions such as Sodium Sulfacetamide ten per cent or ophthalmic ointments of Bacitracin, Aureomycin and Gantrasin.® One-half per cent Pontocaine® solution is a good local anesthetic. A sterile solution of distilled water for irrigation is necessary. Care should be taken in regard to contamination of all medications mentioned above. It is best not to use a mixture of Cortisone with an antibiotic ointment or solution unless you are certain of the diagnosis.

What Conditions May Cause the Patient to Complain That "A Particle of Dirt" Is in the Eye? (1) A foreign body imbedded in the corneal epithelium or lodged on the posterior surface of the upper lid; (2) a corneal abrasion resulting from a scratch by a fingernail, twig of a tree or edge of a newspaper; (3) ulcer of the cornea — most often adjacent to the limbus; (4) superficial keratitis, particularly the type due to herpes simplex, for which cortisone is strongly contra-indicated. In the diagnosis of these various conditions, the instillation of Fluorescein two per cent solution plus the oblique illumination of a properly focused pen light are great aids.

*Department of Ophthalmology, University of Vermont College of Medicine, Burlington, Vermont.

What Is the Most Common Cause for Uncorrectible Poor Vision in One Eye in the Pre-School Child? Partial amblyopia due to disuse in a "cross-eyed" or convergent strabismus where one eye turns in all of the time in all positions of gaze. A large refractive error, often astigmatic, may also be a cause for partial amblyopia. It should be kept in mind that a child at this early age may have developed a convergent or divergent squint due to lesions in the retina, optic nerve or lens such as retinoblastoma or cataract.

What Can Be Done for the Child Age Two Years Who Has Developed an Esotropia or Convergent Strabismus? Atropine Refraction, by retinoscopy, a study of the fundi and the determination of the need of covering the fixing eye, a proper correction of the refractive error, an outline of the future treatment of the condition for the mother and finally the use of corrective surgery if needed. It is a great mistake to allow these cases of convergent or divergent strabismus to go untreated until school age. At the age of six years, the suppressed vision in the squinting eye has become fixed and efforts to improve the vision by exercise, corrective lenses or covering the good eye are not satisfactory. It is difficult to explain to the mother why a lens will not help the vision of the squinting eye at this relatively late age. While it is true that each eye in alternating convergent and divergent squint have relatively equal vision, a cycloplegic refraction and examination of the fundi are necessary.

What Are Some Signs of Congenital Glaucoma? The infant may have considerable photophobia; the cornea is slightly hazy; the pupil reacts poorly to light; the eye is large and the optic cupping is glaucomatous in type. The disease is bilateral and the intraocular pressure as measured with a tonometer is elevated. Examination under Pentothal® anesthesia plus the use of one-half per cent Pontocaine is necessary. Blindness results in unrecognized cases.

What Is the Most Common Serious Defect Seen in Children? Congenital cataract, recognized best after the pupil has been dilated with Homatropine two

per cent. This type of cataract is more common if the mother has had German measles, chicken-pox, mumps herpes zoster or some other severe virus infection during the first trimester of pregnancy. Infants whose mothers were severe diabetics, hypertensives, experienced prolonged labor or had lues will have a higher incidence of congenital defects. Retrolental fibroplasia, a recent ocular complication of prematurity is seldom seen due to proper oxygen control in incubators.

How Can You Determine That a Piece of Metal Has Passed Through the Entire Thickness of the Cornea? (1) The exact history of how and with what force the metal struck the eye; (2) In a penetrating wound the pupil is usually irregular, the anterior chamber is more shallow at the point of penetration, there may be a hole in the iris seen best by retroillumination and the lens may show evidence of injury by a beginning opacity. Occasionally the foreign body may be seen in the fundus. The anterior chamber may be filled with blood — this finding may be seen with a severe contusion as well as a penetrating injury. X-ray must be done in all suspected cases.

What Are the Signs of an Attack of Acute Congestive Glaucoma? (1) A history of previous less severe attacks of blurred vision; (2) severe headache localized in the eye and often extending posterior on the side involved; (3) nausea; (4) a dilated, fixed pupil; (5) a shallow anterior chamber; (6) hazy cornea and a marked decrease in vision. The fundus cannot be seen well due to the edematous cornea. The intraocular pressure is much higher than normal both to finger palpation and tonometer reading. The tonometer should be regularly employed by the general practitioner if not as part of the general physical examination, at least in any case of suspected glaucoma. The mystery of this valuable instrument will soon disappear with constant use. Proper use of the instrument should be demonstrated by fellow ophthalmologists. Acute congestive glaucoma is one of the few ophthalmic emergencies.

How Many Hours Will the Eye Tolerate the Marked Elevation in Pressure Seen in Acute Glaucoma? As a rule, if the use of miotics, sedatives and Diamox® have not lowered the intraocular pressure in twelve hours or at least twenty-four hours, surgery is indicated. Diamox should not be considered a cure for glaucoma — it is a valuable tool to be used in some cases as an aid to surgery or miotics.

Do All Types of Glaucoma Have Severe Pain? No. The chronic simple glaucoma is dangerous and often not recognized because the symptoms are minimal. The intraocular pressure is moderately elevated, the central vision may be excellent, the field of vision is gradually reduced and the patient is often unaware of any difficulty. The pupil may be slightly sluggish in its reaction to light and the optic cupping is enlarged to the edge of the disc — the so-called glaucomatous cupping. A central field test plus the use of the tonometer may well make the diagnosis in this disease — the greatest single robber of vision.

What May Produce Sudden Loss of Vision in One Eye Without Pain or External Signs? A vascular accident such as a central artery embolus or occlusion. A central vein thrombosis or a large vitreous hemorrhage can greatly reduce vision within a short space of time. The textbook picture of occlusion with the edematous, grayish retina plus cherry red spot in the macula, the collapsed arterioles and no vision is well-known. The central vein thrombosis characterized by marked venous distention and hemorrhage splashed over the entire fundus is a common offender in the older age group.

What May Cause Sudden Loss of Vision in One Eye Following Trauma to the Rim of the Orbit? Fracture of the bony optic canal with resulting laceration of the optic nerve or compression from a localized hemorrhage may cause sudden loss of vision with no visible fundus or disc changes at the first examination. X-rays of the orbit are important in this case

What Are the Salient Signs of Iritis? Photophobia, a constricted pupil, a dull ache in the eye and slight visual depression. If mistaken for conjunctivitis with the usual heavy exudate on the lids, no pain and no reduction in vision, the serious sequelae of dense posterior synychiae, secondary glaucoma and cataract may result because atropine was not used.

What Is the Difference Between an Ophthalmologist, Oculist and Optometrist? An ophthalmologist or oculist is a physician and surgeon who has been trained in the treatment and diagnosis of ocular conditions — medical, surgical and optical. An optometrist is a refractionist who is not a graduate of a medical school and has had no training in the medical and surgical conditions of the eye. He is not responsible for detection of any ocular pathology. His training has been in the refractive field.

In conclusion, this paper has made no attempt to outline specific detailed treatment but by the use of the question and answer method, a few of the interesting problems in ophthalmology have been touched upon in the hope that the general practitioner will be stimulated to use his ophthalmic tools and knowledge.

Low Dosage KYNEX for G.U. Infections

Unusual Antibacterial and Anti-infective Properties. More rapid absorption . . . higher and better sustained plasma concentrations . . . more soluble in acid urine than other sulfonamides . . . freedom from crystalluria and absence of significant accumulation of drug, even in patients with azotemia. [1]

Unprecedented Low Dosage. Less sulfa for the kidney to cope with . . . yet fully effective. A single daily dose of 0.5 to 1.0 Gm. (1 to 2 tablets) maintains higher plasma levels than 4 to 6 Gm. daily of other sulfonamides —a notable asset in prolonged therapy. [2]

New Control Over Sulfonamide-sensitive Organisms. KYNEX maintains the prolonged, high tissue concentrations of primary importance in treatment of urinary infections . . . a therapeutic asset toward preventing manifest pyelonephritis as a complication of persistent bacteriuria during pregnancy and puerperium. Maintenance of sterile urine in such patients was accomplished with 1 tablet of KYNEX daily. [3]

KYNEX*

Sulfamethoxypyridazine Lederle



Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours. Dosage in children, according to weight; i.e., a 40 lb. child should receive ¼ of the adult dosage. It is recommended that these dosages not be exceeded.

KYNEX—WHEREVER SULFA THERAPY IS INDICATED

Tablets: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

Syrup: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

References: 1. Grieble, H. C. and Jackson, G. G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958. 2. Editorial *New England J. Med.* 258:48-49,1958. 3. Jones, W. F., Jr. and Finland, M., Sulfamethoxypyridazine and Sulfachloropyridazine. *Ann. New York Acad. Sc.* 60:473-483, 1957.

*Reg. U. S. Pat. Off.

Lederle
LEDERLE LABORATORIES
a Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

Dermatology For Undergraduates

JOHN F. DALY, M.D.*

This brief account is an interim report on a plan for the instruction of undergraduates in dermatology which is now in its fifth year of operation at the College of Medicine of the University of Vermont.

This brief account is an interim report on a plan for the instruction of undergraduates in dermatology which is now in its fifth year of operation at the College of Medicine of the University of Vermont. Changes come slowly in the medical curriculum but they are now appearing to varying degrees in many schools of medicine in the United States. The trend today seems to favor clearly a more truly clinical method of student instruction. Not too long ago dermatology, like many of the other disciplines of medicine, was taught largely by didactic lectures, supplemented by varying amounts of pictorial material and abetted by instruction in the outpatient service in which the student took a variable part. The lecture method had the advantage of mass exposure of a fair number of students to a given body of information but often failed to insure a useful increase in the knowledge of the subject by the student thus exposed.

History of the Program

In the University of Vermont College of Medicine, dermatology has been dignified in the faculty by professorial rank since 1876 when Dr. Robert W. Taylor was so designated. Vermont was the fifth medical school to establish such a department or division. Over the years ending in 1948 there were eight professors, none of whom actually resided in Burlington, Vermont — the location of the school. These earlier teachers were visiting professors whose practices were situated in other cities such as New York and who made appearances at different intervals to conduct undergraduate instruction and to offer dermatologic assistance in the community. At one time during the nineties the visiting professor used to make his appearance and stay for three weeks during which time the student body put aside the routine subjects of instruction and concentrated on matters dermatologic. The fact that Burlington is and has been a relatively small community in a somewhat sparsely populated state did not attract a resident dermatologist until the writer came to the city in 1949. Immediately prior to my arrival the teaching was conducted on the occasion of a monthly visit of the Professor to Burlington. This instruction centered about two dermatologic clinics each lasting about two hours to which the physicians of the region were wont to refer their dermatologic cases. The clinics were supplemented by lectures. The number of visits each year usually totalled eight. A most devoted teacher from the pre-clinical faculty assisted the Visiting Professor by arranging for his visits and the care and guidance of local dermatologic patients during the absences of the professor. This same faculty member also conducted a weekly clinic for dermatologic diseases and here instructed two members of the fourth year class at each session.

With the advent of a dermatologist resident in Burlington the lecture series was expanded to a total of 48 hours in the third year of instruction. The fourth year men continued to receive clinical instruction in the outpatient clinic in groups of two or three for a usual term of four clinic sessions. In 1950 a second dermatologist joined the faculty and participated in lecture and clinic teaching. Under the leadership of Dr. George A. Wolf, Jr., the Dean of the College of Medicine, a major study of curriculum revision began.

The major emphasis of revision as it applied to the clinical years of the medical course was the substitution of actual patient experience for the long series of lectures. The basic feature of the plan for the third year student was a tutorial form of instruction in small groups and service by the third year student as a clinical clerk. The total number of lectures during the year was reduced to one hour a day and these one hour periods are apportioned to various departments and divisions to provide review of the current status of the various fields of medicine. This confronted the Division of Dermatology with the problem of conformance with the new plan. It should be noted that the Division of Dermatology is a part of the Department of Medicine and responsible through the Professor of Medicine to the Dean. By the nature of dermatologic disease most of the patients are ambulatory and thus there would be too few in-patients at any one time to propose to do instruction solely in the hospital. The outpatient service was of small volume and held on one day each week

*Professor of Dermatology, University of Vermont College of Medicine, Burlington, Vermont.

for four hours. Although the number of patients was sufficient to require the presence of both members of the division at each session the material was still far short of that desirable for a basis of instruction. Both members of the Division of Dermatology are part-time teachers and as such find it requisite to derive their principal source of income from the private practice of dermatology. Each of the two teachers maintains an office in the city for practice. It can thus be readily understood that the bulk of dermatologic material lay in the private patients. This then was the setting in which the plan for instruction was launched.

Present Program

Briefly the plan of the Division of Dermatology was to attempt the instruction of the third year students on a preceptorial basis in the private office of each of the division members. Classes in this College of Medicine are now limited to 50 members per class though attrition by the third year has reduced this number sometimes by as many as ten. There are thus from 40 to 50 students to receive instruction each year. The actual assignment of individuals to the preceptors has been a function of the Department of Medicine and they are assigned for one calendar week during the trimester spent in Medicine. The student then reports to the office on Monday morning and spends the week with his preceptor. An effort is made to demonstrate each patient to the student and in this manner he will have an opportunity to see 50 to 100 dermatologic conditions in that week. The amount of time for explanation and discussion naturally varies with the press of practice. The preceptor guides the reading of the student and usually an endeavor is made to point his reading toward the cases to be seen the next day wherever the nature of their problem is known in advance. An effort is made with each student to encourage him to review basic anatomy, physiology and chemistry as they apply to dermatology as a part of the week's experience. It is the feeling of the division that the reading should follow the cases demonstrated and that to try to interest a student abstractly to read about pityriasis lichenoides et varioliformis acuta is foredoomed to failure. It is surprising, on the other hand, how well students come to know even such unusual entities when an illustrative case can be shown. It is our aim to instruct in the basic means of approach to the recognition of dermatologic diseases and their management and to emphasize the helpful if often ancillary role the dermatologist has in general medical practice. It is hoped that the student will acquire fundamental notions of the field and establish an adequate framework on which he may add the visual and mental concepts of dermatology as experience bring them to him. Most assuredly the knowledge of our students will present many gaps in its completeness but we do hope that he will maintain an interest in matters dermatologic and not develop the all too common feeling of repulsion to the jargon of nomenclature and what too often seems a jungle of complexities.

For some years the Division of Dermatology has conducted no final examinations in the subject and it is noted with interest that the National Board of Medical Examiners now includes questions of dermatology in the medical examination and not a separate examination. This we feel is as it should be. One or both of the members of the Division participate in the oral examinations which follow completion of the medical trimester for the student. Here a panel from the Department of Medicine orally examine students and roughly two students out of three are asked questions in the field of dermatology. An effort is made in such examination to frame the question so as to give it bearing on general medicine as well as on purely dermatologic problems. There has been no change in instruction of fourth year students who still participate in small groups in the weekly sessions of the Outpatient department.

Advantages and Disadvantages

The advantages of the system now in use include the highly desirable ratio of one student to one instructor, a situation made feasible by our small classes. The method permits the abandonment of the lecture method which either with or without lantern slides leads to a great and growing feeling on the part of the student that all skin diseases are exactly alike and in its wake to somnolence and stiff necks from napping while the lights are out. The concentration of the dermatologic instruction in a single week with freedom of the student from conflicting demands of instruction in other subjects does facilitate learning. Often the week spent in the preceptor's office is the first time that the student has ever seen medicine from the doctor's side of the desk. This, too, offers the preceptor an opportunity to indoctrinate the student with the humble but inexorable demands of the production of legible records and prescriptions, the keeping of the tiresome but requisite financial records and some warning of his impending role as an assistant to the Director of Internal Revenue. Here in the office it is also possible to show the student how to manage the patient not only medically but as a neighbor and friend. Here the student may be given an appreciation of the niceties of medical correspondence and at times the preparation of medical writings. Here again the student learns of the considerable contribution which photography can make in many fields of medicine but so very helpfully in dermatology.

From the preceptor's standpoint an advantage may be claimed in that the method of teaching outlined enables him not only to earn his living but at the same time to contribute to the cause of medical education. Until such time as the full time support of medical instruction here is possible this provides a means of doing two things at once.

The disadvantages of the system depend principally on the chance limitation of material seen by the individual student and the almost insoluble problem of how to provide any uniformity in experience. Another disadvantage lies in the not inconsiderable strain imposed on the instructor or preceptor who must maintain an equable calm despite the double demand of attention to patient and student simultaneously. Where one must depend upon patient good will for income it must surely give a physician pause to attempt teaching with private patients in the office. Despite this objection it has been found that by dint of constant thought and care in selection of the patient to be demonstrated and by carefully presenting the question of demonstration to the patient it is possible in the great majority of instances to make the occasion one of profit to all. Many patients have expressed the sentiment that they are only too pleased if their ailment will have the useful function of instruction of our doctors-to-be. When I have no student in the office, many of my patients have asked me where the young doctor is today, showing that they have certainly not resented the experience. Now and again I find patients who will not agree to be seen and quite possibly now and again a patient is lost through resentment. Students who like "spoon-feeding" as an educational method do not thrive on the preceptorship relationship and these are the ones that must periodically be resurrected from the depths of some dermatologic text to see some readily demonstrable lesion. Occasionally one meets the overeager type of student who constantly treads on ones heels. This is capable of regulation. To anyone who assays this method of teaching it will soon be apparent that one of the most trying features is the disappearance of any opportunity to relax between duties which so often is the restorative that tides us through the day. The solution to this is not evident but may possibly render eventual retirement more palatable!

In the period of somewhat over four years of use of the preceptorial method of teaching dermatology to undergraduates I believe it has proved to be a useful method — not free from defects but one which we hope may be modified by thought and planning to approach nearer the goal of fully adequate dermatologic teaching.

COMMITTEE STUDIES AMA'S BASIC PROGRAMS

One of the first projects of the Committee to Study AMA Objectives and Basic Programs will be to send out a questionnaire inviting suggestions and criticisms of the Association. This questionnaire will be based on the following four points which were listed by the House of Delegates when the committee was organized last December: (1) redefining the central concept of AMA objectives and basic programs; (2) placing more emphasis on scientific activities; (3) taking the lead in creating more cohesion among national medical societies, and (4) studying socioeconomic problems.

The questionnaire will be sent to not only state and county medical societies, specialty groups and other national medical organizations but also to a probability sample of more than 3,000 physicians chosen systematically from the new AMA DIRECTORY. The latter sample will include both AMA members and non-members.

Members of the committee include: Drs. Lewis A. Alesen, chairman, Los Angeles; Thurman G. Givan, Brooklyn; Milford O. Rouse, Dallas; James Z. Appel, Lancaster, Pa.; Hugh H. Hussey, Washington, D. C., and Raymond M. McKeown, Coos Bay, Ore.

SPECIAL ARTICLE

Radiation In Chest X-Ray

GEORGE E. YOUNG, M.D.

At a recent meeting of the Maine Trudeau Society, one of the subjects discussed was radiation, especially that produced by x-ray exposure.

One can readily understand the importance of x-ray studies in diseases of the chest. Not only is it very important for the early diagnosis of pulmonary tuberculosis, its stage and type, but also x-ray directs type of treatment in the P.P.D. intradermal skin reactors. It is vitally important, when a patient is admitted to a sanatorium and is placed under treatment, to know after a month or two the regression or spread of his disease, and x-ray affords us one measurement. In another period, when surgical interference is considered, not only plain films, but sectional films of the chest are necessary. Postoperative films are also necessary to determine treatment.

It is not unusual for a patient to have at least a dozen films of the chest during his stay at a sanatorium in a period of a year. We are not so concerned for the older group, but certainly there is reason for concern for the child or the adult under 30 years of age. It has been said that 10 Rs should be the limit of exposure between birth and 30 years of age. This arbitrary limit has been argued in several of our x-ray magazines. The real damage, of course, is the amount of x-rays that reach the gonads. In chest filming, the direct ray is usually centered about the 4th dorsal, far away from the reproductive organs. Still a very small fraction of an R can be reflected by tissues in any part of the body to the vital reproductive organs. It would be safer still to protect the lower portion of the body from x-rays by a lead-rubber apron.

The first reported case of human injury from radiation came only a few months after the publication of Roentgen's original paper in 1895. During the following decade, many of the now familiar acute and chronic radiation effects were observed and reported. In reviewing the subject as reported in our x-ray magazines, nuclear medicine reports and the Nuclear Commission for Defense, there seem to be a few points worth recording. The early potential effects of radiation were thought to be 1. reduction of life span, 2. an increase of mutations and 3. increased incidence of leukemia. In one report it was emphasized that the radiologist's family was more apt to have leukemia, as well as an increase in the number of congenital abnormalities in the offspring, as compared with other medical specialists. To date, as far as is known, the radiologist and their technicians are getting the greatest exposure to x-rays.

There are many x-ray machines being used today with very poor protective equipment. There are approximately 200,000 individuals in the United States who are using x-ray machines. It has been reported by certain investigators that many of these machines are not controllable. I know that the large manufacturers of x-ray equipment are doing their best to reduce the hazard of scattered rays.

The testing of bombs and other developments connected with the military use of atomic energy have caused international debate over atomic health hazards to reach a new height in recent months.

There are, however, three chief sources of radiation exposure that constitute a purely civilian aspect of this problem. I have in mind first, the type of exposure which is related to the peacetime use of atomic energy; second, exposure which results from the presence of natural radioactive substances in the environment and from cosmic rays; third, the exposure resulting from the medical use of x-ray in diagnosis and treatment. One can well imagine the public health problem when nuclear energy becomes a serious rival to coal and oil as the principal fuel of American industry. Protection of the population will become a definite priority in public health assignments. Meanwhile, we should do everything possible to protect the patient, and especially the gonads, without sacrificing the great value of the x-ray in diagnosis and treatment.

There is, in every medical man, a holy satisfaction shared with the patient in making an early true diagnosis, especially in chest work, not only in the discovery and treatment of tuberculosis, but in the ever-growing frequency of malignancy of the lung when it may be discovered at an early stage where surgical resection gives the patient a fair guarantee of cure.

At the last Maine Trudeau meeting, the question was brought up as to whether or not the space in the Journal of the Maine Medical Association, purchased by the Maine Tuberculosis Association, was being read, or in other words, worthwhile.

On page 196 please find a questionnaire.

If you believe that "TB Abstracts" is of value and

Continued on page 196

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D.	Togus	Fourth District, JAMES E. POULIN, M.D.	Waterville
Second District, WALDO A. CLAPP, M.D.	Lewiston	Fifth District, MARCUS A. TORREY, M.D.	Ellsworth
Third District, RALPH P. EARLE, M.D.	Vinalhaven	Sixth District, RICHARD C. WADSWORTH, M.D.	Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville PEARL R. FISHER, R.N., Waterville

Across The Desk

Construction of Diagnostic/Treatment Centers in Rural Areas

Speech by Representative Frank M. Coffin in the House of Representatives (Congressional Record — House — April 2)

The SPEAKER pro tempore. Under previous order of the House, the gentlemen from Maine is recognized for ten minutes.

Mr. COFFIN. Mr. Speaker, I am today introducing an amendment to the Public Health Service Act. In 1954 when Congress expanded and broadened this act, title VI was modified so that a very special limitation was placed on applicants for funds to build diagnostic treatment centers. This modification restricted applications by nonprofit associations and corporations to the owners and operators of nonprofit hospitals.

I well appreciate that improved hospital care has been provided in the cities where the centers have been built. But I am aware, too, that vast rural areas where there is no hospital in or adjacent to small communities, are not benefiting under this program, which was intended primarily to reach them.

The basic need served by my amendment is for improved medical care in those rural areas where there is an urgent need for more, better qualified doctors. The basic theory, advanced by many doctors themselves, is that the establishment of rural clinics in communities where hospital services are not available will stimulate young physicians to take up rural practice if they have proper facilities and can maintain a high professional standard. Doctors are today rejecting a 24-hour-a-day rural practice. They find the returns are slim after a long, expensive education. They cannot make the required investment in facilities and equipment. They are remote from hospitals. They must strain to keep up with the tremendous changes taking place in their profession. The establishment of rural diagnostic and treatment centers would certainly go a long way toward helping to solve this problem and to meet the acute medical needs of remote communities where local citizens are willing and anxious to contribute to cost and maintenance of the centers.

The need for an additional approach is nationwide, as evidenced by the very meager funds that have reached rural areas where there is a shortage of doctors and medical facilities. Although for nearly four years existing law has provided for treatment centers if nonprofit hospitals apply, this provision has been very rarely used except in areas where hospitals and public health services already exist. The fact is that the diagnostic centers have been built almost exclusively in urban areas as integral parts of hospitals.

Under the 1950 census, rural population covers those living in towns of 2,500 or less. Since the passage of the restricting amendment in subsection (e), section 654 in 1954, only two new diagnostic treatment centers not connected with existing hospitals have been built in towns having a population of between 2,500 and 5,000 people, according to figures of the Public Health Service. In other words, the present machinery is simply not doing the job it was set up to do.

Under my amendment the purpose of bringing facili-

ties and doctors to rural areas is carried out first by a technical change in section 631 of title VI to include the definition of a nonprofit teaching hospital. Subsection (e), section 654 of title VI is then amended to read as follows — new wording is in brackets:

"(e) Notwithstanding subsection (a) of this section, no application for a diagnostic or treatment center shall be approved under such subsection unless the applicant is (1) a State, political subdivision, or public agency, (2) a corporation or association which owns and operates a nonprofit hospital, or (3) [a nonprofit corporation or association which has a formal affiliation with a nonprofit teaching hospital. In the case of projects referred to in clause (3) of the first sentence of this subsection no grant in excess of $25,000 shall be made, and no grant shall be made for a project which is to serve a town having, at the time the project is approved, a population of 10,000 or more persons, or a group of towns having, at the time the project is approved, an aggregate population of 15,000 or more persons]."

My amendment, in short, would add a third category of applicants to the two now provided for in the act. This third category would consist of nonprofit associations or corporations which have a formal affiliation — a contractual relationship — with a nonprofit teaching hospital. Such a hospital would be one properly accredited for internship or residency training, or both. It is contemplated that the hospital under the formal affiliation would provide the diagnostic treatment center with certain services, technical assistance, training of laboratory aides, and postgraduate education to physicians who will practice in rural centers, as spelled out in regulations by the Secretary of Health, Education and Welfare.

In adding a new category of applicants for funds for diagnostic treatment centers under the Hill-Burton Act, I propose also to add special safeguards to prevent the centers from competing with existing hospitals. My amendment would limit Federal grants to $25,000 and would confine the grants to towns with under 10,000 population, or groups of towns with a total population under 15,000.

In considering the introduction of this amendment, it was necessary for me to study three possible reasons for failure of the present program: First, the lack of a compelling need for the diagnostic treatment centers in rural areas; second, a stubborn refusal to build them; third, a practical inability to build them under existing law. I have concluded that the chief reasons for failure are rooted in the limitation in the existing law.

A diagnostic center owned by a political subdivision such as a town simply has not attracted and will not attract physicians of standing. Doctors under this arrangement are in effect working for a governmental unit. Their day-to-day practice and their futures are dependent on the favor of the selectmen of a town who are likely to change office frequently. Moreover, a town-owned and managed facility must be put to a variety of fringe uses decided on by town officials. This means that the functions of a diagnostic treatment center will be combined with other functions. The atmosphere is not one which will attract doctors who want to maintain high professional standards, and, if possible, practice on a par with their colleagues in the cities where there are so many pre-existing advantages.

Another reason for the failure to build clinics under the existing law is that towns are not able to raise funds to match the Federal contribution. This is particularly true today when they are burdened, if not overburdened, with relief cases, demands for new schools, roads and other municipal services. Even if citizens could raise the initial money and turn it over to the town, the town would not in many instances be a reliable source of continuing funds to maintain and operate the center. Even if they could do so, the fact is that most towns do not want to make that commitment. And, bearing in mind the coincidence of low per capita income and rural areas, one can understand this attitude. One can hardly expect "Operation Bootstrap" where the strap is often a tenuous thread.

The hospitals do not meet these particular needs of rural areas as they very understandably take the position that they cannot be responsible for the operation of a center 50 or 60 miles away. There does not appear to be any valid reason why under the amendment and by agreement and regulation, the hospital cannot be, first, relieved of legal responsibility; second, why the centers cannot be located where they would not compete with existing facilities. One of the chief purposes of the amendment is to place the centers where other facilities are not readily available.

I believe that the specific limitations that are coupled to my amendment will overcome (a) the danger that corporate groups or employee plans will monopolize funds for the treatment centers, (b) the danger that the centers will duplicate and compete with existing facilities. It will be administered under regulations of the Department of Health, Education and Welfare and in close cooperation with Hill-Burton advisory committees in each State. These should certainly provide sufficient safeguards to insure that the centers are located where the prospect of success is as great as the need in the local area.

Strong Effort Due To End Free Choice in Medicare

When House Appropriations Committee reports out the huge funds bill for armed forces next month, it will append a special report recommending reforms in Medicare program. Main one, it appears now, will be that Defense Department exercise its authority to curb freedom of military dependents to choose between civilian and government doctors and hospitals. No blood was drawn recently behind closed doors, when an

appropriations subcommittee questioned Medicare and Defense officials; but the majority of members on this Congressional group are convinced that "free choice" is costing taxpayers additional millions each year.

At Medicare headquarters here, no decision has yet been arrived at on processing of doctors' claims in Texas beginning May 1. Telegram received Thursday from Texas Medical Association said it would terminate its third party responsibilities when its contract expires May 1. Notification took Medicare by surprise as Texas negotiators had recently reached agreement on contract terms for 1958-59. But the association's house of delegates put in a veto.

Tax Rulings on Travel Costs and Sick Pay

Internal Revenue Code of 1954 (Sec. 213) authorizes deduction of expenses of transportation which is "primarily for and essential to medical care." Differences of opinion arise frequently, however, as to allowability of transportation costs in particular cases.

A recent ruling by Internal Revenue Service (Rev. Rul. 58-110) sheds new light on its interpretation of Sec. 213. In this case, central figure was an elderly taxpayer suffering from heart disease. His physician prescribed a change of climate and recommended that a nurse accompany the patient. Inquiry was made as to whether travel expenses of patient and nurse were deductible.

IRS ruled affirmatively, based on finding that "the taxpayer made the trip on the advice of his doctor in order to alleviate specific chronic ailments and to escape unfavorable climatic conditions which have proved injurious to the health of the taxpayer."

Another IRS ruling concerns taxability of reduced wages paid to school teachers who are granted leave to regain their health. In specific case on which the agency ruled, leave was granted on recommendation of attending physician and with concurrence of the school system's medical director.

It was held that the reduced payments in lieu of salary constitute a wage continuation plan and that sums received under such plan may be excluded from gross income.

Congressmen Question Medical Fee Increases

Veterans Administrator Sumner G. Whittier and his chief medical officer, Dr. William H. Middleton, were questioned closely on size of fees paid to private physicians when they testified recently before the House Appropriations Committee. Involved were professional services to veterans eligible for outpatient care.

The VA officials supplied a statistical table disclosing that the office visit has risen from an average of $4.92 in 1952 to $5.89 this year. About 580,000 veterans will make 1,296,400 visits to private doctors this year in VA "home town care" program.

"We have found that since the passage of the 'Medicare' law, there has been a substantial increase in the rates charged by private physicians," the hearing was told by R. M. Wise, a budget officer on the VA staff. "That is true even under state contracts. There has been a lot of pressure to increase those rates."

President Issues Order on Drafting of Doctors

The President has signed an executive order whose tardiness has no practical significance. It simply authorizes Defense Department to activate Reserve doctors who are subject to Selective Service callup. This is a routine step based on Congressional amendment of the draft laws last June. As long as armed forces continue to get sufficient medical and dental volunteers to fill their needs, it won't be necessary for the Secretary of Defense to invoke this delegation of power.

RADIATION IN CHEST X-RAY — *Continued from page 193*

should be continued, would you please sign the form, at the bottom of this page, and send it to The Maine Tuberculosis Association, 2 Bridge Street, Augusta, Maine.

NOTE:
By the way, the Maine Trudeau Society is becoming a very active and worthwhile association, discussing all types of diseases of the chest. There are still some vacancies in the membership. It would please the Society to have more applications for membership. It is my impression that the Maine X-Ray Society should give us clear and precise advice on our x-ray procedures.

Signed George E. Young, M.D.
for the Maine Trudeau Association

To: Maine Trudeau Society

I believe "TB Abstracts" is worthwhile and publication in the Journal of the Maine Medical Association should be continued.

..... M.D.

State of Maine

Department of Health and Welfare

DEAN H. FISHER, M.D.
COMMISSIONER

Role Of The Physician In Nursing Home Services

CAROLYN P. ADDE, *Staff Development Supervisor*

That the well-being of its people is of major concern to the State of Maine is evident when the many and varied responsibilities invested in the Department of Health and Welfare are considered. This conviction is strengthened by further consideration of the amount of money that the people of Maine are willing to spend to promote the health and welfare of all. The Department of Health and Welfare has, by law, the responsibility to spend this money wisely and well; to spend it in providing for needs that the individual or his family cannot meet and for those needs which private interest cannot provide.

Today Old Age Assistance recipients are receiving care in licensed nursing homes and rest homes in Maine. In addition to this group, there are recipients of Aid to the Blind, Aid to the Disabled, and Aid to Dependent Children, who are eligible for nursing home care. These people are in need of financial assistance and in need of medical care; in this respect the medical profession and the Department of Health and Welfare have a mutual concern. And this concern is for the individual recipient-patient and for the total medical-assistance program. The needs of the physician's patient — the Department's recipient for nursing care or rest care, as a part of a prescribed medical regimen, can now be financed by the Department under certain circumstances. This includes not only payment to the home operator for nursing and rest care, but payment for the physician's examination and report as well. A social worker in Public Assistance cannot give maximum help to the individual in making the best social adjustment without considering his ill health, just as the physician cannot treat his ill health without considering how his environment affects him. There are basic facts that the physician and the social worker need to know together if a sound medical and a sound social plan is to be made.

Payments for nursing care are made to the nursing home owner when a recipient of one of the four categories of Public Assistance is in need of nursing care, is receiving it in a licensed nursing home, and is accepted for the standard fee of $155.00 a month.

The Department has defined nursing care and rest care for working purposes to provide bases for determinations, first, the need for care and, second, the level of care which can be authorized.

Nursing care for departmental purposes is the performance of activities in caring for the ill that requires substantial specialized knowledge, skill and judgment which is based on the knowledge and application of the principles of biological, physical, and social science. It is the kind of care that requires the services which a professional nurse gives directly or by delegation of selected acts to a licensed practical nurse and that may be rendered in a licensed nursing home. Such care is often indicated after hospitalization, after the acute illness no longer requires services such as the operation room and laboratory procedures. Another indication is when the patient continues to need skilled nursing care which is part of a prescribed medical regimen and with certain medical objective in mind, dependent upon the prognosis. Medical care, which includes nursing care, may be directed toward complete restoration of function that will enable the individual to return to normal living and usual occupation, or toward partial restoration that will enable the patient to perform the activities in daily living or the hygienic measures involved in self-care. With some individuals, care may be directed solely toward alleviative measures for pain and discomfort with little or no hope for better health.

The social worker needs to know the nature of the illness and the treatment and care prescribed in order to: 1 — conclude that skilled nursing care is a requirement for this patient, 2 — for indications as to how long it may be a requirement, 3 — for help with planning as indicated. The social worker will be looking to the patient's physician for this kind of information, so that the individual may be helped to make maximum use of himself toward a better, more constructive life and as a better, more constructive member of the community. Physicians may be asked to present this information on a form (PA-18) devised as a guide in presenting medical data substantiating the patient's

need for nursing care or the social worker may call in person.

The social worker is accountable for the public funds being spent in the Public Assistance programs and she has the responsibility for reaching a decision as to whether or not a recipient falls within *the Department's definition* of need for medical care of this type. A decision which differs from the recommendation of an attending physician in no sense implies any question of a professional medical judgment by any member of the staff of the Department of Health and Welfare. This is a difficult area in which two different types of responsibility may sometimes be conflicting; the physician's knowledge of the needs of his patients and the social worker's knowledge of the eligibility requirements for service. The medical staff of the Department is available to the social work staff for interpretation, consultation and training. The initiation of a plan under which a fee will be paid for a social worker's consultation with an attending physician is intended to provide an opportunity to make more certain mutual understanding of the patient-recipient.

All working definitions of need for service involving the expenditure of money have to be related to the amount of money available. The broader the definition, the more recipients automatically are eligible and, therefore, the greater the expenditures. This is not the only financial factor influencing the provision of nursing and rest care for public assistance recipients. It is apparent that the rates which must be paid for care are important.

The second classification of care for which the Department makes direct payment to a licensed nursing home or rest home is rest care. In rest care the activities in caring for the ill or infirm are mainly those that require no special body of knowledge and skill but are those acts which may be performed by an untrained person under nursing supervision. The patient's needs for care are such that an aide, or an attendant can give the service in a rest home under the direction of the staff nurse. Such care may be indicated after the patient's condition has become stabilized and he has benefited from the rehabilitative measures offered by skilled nursing care and close medical supervision. It may also be required when the reverse is true and the patient has a condition that is progressive and implies the type of care needed before eventual nursing or hospital care, or when the patient has mild, temporary regressions from a state of reasonably good health.

It is the physician who knows the nature of the patient's illness, the organic change, the functional limitations and the treatment and care that is necessary for the preservation of health and the prevention of ill health. The physician makes these things known to the social worker with these two classifications of care in mind, with a specificity that is indicative of the classifications of care into which patients' needs fall. A diagnosis which is stated in precise and specific terms promotes understanding of and substantiates the kind of care needed. A diagnosis of heart disease has little meaning whereas the type of heart disease according to cause, along with the nature of pathological changes in the heart and vascular system, gives meaning to and substantiates the treatment and care prescribed. Some physicians also make use of the functional and therapeutic classifications of the American Heart Association in describing care and treatment.

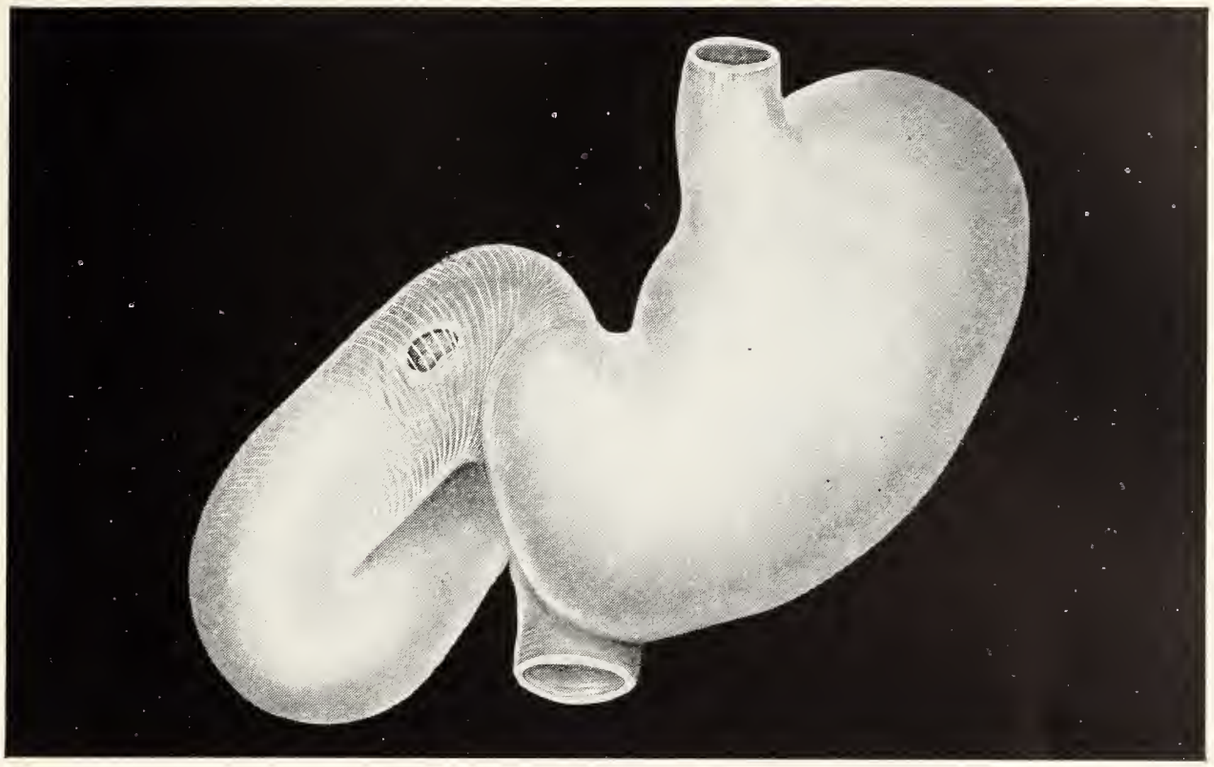
When the physician feels that the patient needs the direct ministration of a professional or practical nurse, he will designate the procedures which require that degree of competence. For example, when the dosage has not been stabilized, the physician may want it to be administered and supervised by a nurse who can be alert to significant changes in the patient's condition. Procedures which require technical competence such as irrigations and indwelling catheters should be noted. A description which gives the nature of the illness, etiology, therapeutic measures and outlines the procedures is the first step in assuring that the best facilities become available to the patient.

Patients, relatives, friends and town officials ask the social worker to help recipients of Public Assistance obtain needed medical care. It is the responsibility of the physician to say what the health condition is so that hospital facilities and nursing homes can be used advantageously. In some localities there is a serious lack of these facilities and it is imperative that there be no waste, that patients be returned to their homes or to board and care arrangements when they are no longer in need of skilled care.

The physician who gives explicit guidance to the nursing home and rest home operator not only assures the best form of care for his patient, he also stimulates interest in good standards of nursing care and efficient use of all facilities. The physician should make sure that the nursing home operator has explicit orders for the care of the patient. Ultimate goals and step-by-step objectives if shared with the operator give more meaning to the physician's orders. Physicians should be cognizant of the varying degrees of technical knowledge and skill of the many operators in interpretation of the patient's condition and the care needed. For example, the operator who is a professional nurse may not need to be told that a sudden rise in blood pressure, or difficulty with respiration, indicates complete bed rest and increased dosage for the patient at the particular stage of his illness, but the untrained person who does not have the background knowledge of the physical sciences needs to be told the specific changes to which she should be alert. A general order to keep the patient as active as possible takes on meaning when the operator knows something about the functional elements of the disease, the re-training of muscles, the development of a more adequate collateral circulation,

Continued on page 204

CONFIRMED THERAPEUTIC UTILITY



Pro-Banthine® "proved almost invariably effective in the relief of ulcer pain,

*in depressing gastric secretory volume and in inhibiting gastrointestinal motility."**

"Our findings were documented by an intensive and personal observation of these patients over a 2-year period in private practice, and in two large hospital clinics with close supervision and satisfactory follow-up studies."*

Among the many clinical indications for Pro-Banthine (brand of propantheline bromide), peptic ulcer is primary. During treatment, Pro-Banthine has been shown repeatedly to be a most valuable agent when used in conjunction with diet, antacids and essential psychotherapy.

Therapeutic utility and effectiveness of Pro-Banthine in the treatment of peptic ulcer are repeatedly referred to in the recent medical literature.

Pro-Banthine Dosage

The average adult oral dosage of Pro-Banthine is one tablet (15 mg.) with meals and two tablets at bedtime.

G. D. Searle & Co., Chicago 80, Illinois.
Research in the Service of Medicine.

---

*Lichstein, J.; Morehouse, M. G., and Osmon, K. L.: Pro-Banthine in the Treatment of Peptic Ulcer. A Clinical Evaluation with Gastric Secretory, Motility and Gastroscopic Studies. Report of 60 Cases, Am. J. M. Sc. *232*:156 (Aug.) 1956.

SEARLE

COUNTY SOCIETIES

Androscoggin

President, Paul J. LaFlamme, M.D., Lewiston
Secretary, Donald L. Anderson, M.D., Lewiston

Aroostook

President, Melvin R. Aungst, M.D., Fort Kent
Secretary, Clyde I. Swett, M.D., Island Falls

Cumberland

President, Ralph Heifetz, M.D., Portland
Secretary, Stanley E. Herrick, Jr., M.D., Portland

Franklin

President, Wallace H. Duffy, M.D., Farmington
Secretary, Paul E. Floyd, M.D., Farmington

Hancock

President, William C. Luther, M.D., West Sullivan
Secretary, Elizabeth B. Connell, M.D., Blue Hill

Kennebec

President, Howard H. Milliken, M.D., Hallowell
Secretary, Arch H. Morrell, M.D., Augusta

Knox

President, David V. Mann, M.D., Camden
Secretary, Parker Heath, Jr., M.D., Rockland

Lincoln-Sagadahoc

President, Stanley R. Lenfest, M.D., Waldoboro
Secretary, George W. Bostwick, M.D., Newcastle

Oxford

President, Norman M. Jackson, M.D., Rumford
Secretary, Harry L. Harper, M.D., South Paris

Penobscot

President, J. Robert Feeley, M.D., Bangor
Secretary, Warren G. Strout, M.D., Bangor
Treasurer, Dexter J. Clough, 2nd, M.D., Bangor

Piscataquis

President, James H. Johnson, Jr., M.D., Milo
Secretary, Linus J. Stitham, M.D., Dover-Foxcroft

Somerset

President, Richard P. Laney, M.D., Skowhegan
Secretary, Harland G. Turner, M.D., Norridgewock

Waldo

President, Ernest W. Stein, M.D., Pittsfield
Secretary, John A. Caswell, M.D., Belfast

Washington

President, Robert G. MacBride, M.D., Lubec
Secretary, Karl V. Larson, M.D., East Machias

York

President, William B. O'Sullivan, M.D., Saco
Secretary, C. W. Kinghorn, M.D., Portsmouth, N. H.

County Society Notes

ANDROSCOGGIN

March 20, 1958

The March meeting of the Androscoggin County Medical Association was held at Central Maine General Hospital. There were 26 members present.

Paul J. LaFlamme, M.D., President of the Society, called the meeting to order. Ralph A. Goodwin, Sr., M.D., gave a concise up-to-date report on Civil Defense including the training courses offered at the present time plus information concerning the new 200-bed Civilian Defense Hospital.

Gilbert Clapperton, M.D., introduced the speaker, Robert Reynolds, M.D., anesthetist at New England Center Hospital and associate professor of anesthesia at Tufts, University Medical School, whose topic was "Oxygen Therapy." Dr. Reynolds gave the indications and classification of anoxia signs and symptoms, moderate and severe, of oxygen want. He demonstrated the treatment, emphasizing the rate of flow and nasal catheter position. He discusssed other methods of administering oxygen besides the nasal catheter, pointing out their drawbacks and limitations.

Donald L. Anderson, M.D.
Secretary

PENOBSCOT

March 18, 1958

The March meeting of the Penobscot County Medical Association was held at the Tarratine Club in Bangor.

J. Robert Feeley, M.D., President of the Society, called the meeting to order. Edward L. Curran, M.D., Chairman of the Emergency Call Committee, reported that 25 members had agreed to serve on the Emergency Call roster. Robert O. Kellogg, M.D., introduced a motion that the Emergency Call Roster be drawn up on a 25-member basis, which was approved.

The speaker of the evening, Rodger E. Wiesmann, M.D., was introduced by Charles D. McEvoy, Jr., M.D. Dr. Wiesmann presented an interesting talk on his experiences with acute and chronic arterial occlusion.

Warren G. Strout, M.D.
Secretary

WASHINGTON

April 25, 1958

The April meeting of the Washington County Medical Society was held in conjunction with the Washington County Bar Association at Hinckley Point, Dennysville, Maine. There were thirty-four members and guests present with doctors and lawyers from both sides of the international border.

Following a buffet lobster dinner, the members discussed some of their mutual problems. It was voted to make this an annual affair.

April 27, 1958

On April 27 twelve members of the Washington County Medical and Bar Associations watched two movies, The Medical Witness and The Doctor Defendent, at the Calais Armory. After the meeting they were taken on a conducted tour of the new Calais Armory by Francis Brown, an Attorney as well as head of the local national guard.

Karl V. Larson, M.D.
Secretary

Necrologies

Eugene M. McCarty, M.D.
1874-1957

Eugene M. McCarty, M.D., 83, prominent Rumford physician and surgeon, died May 3, 1957.

Dr. McCarty was born in Woolwich, Maine, January 17, 1874, the son of Henry D. and Eugenia M. McCarty. He attended Portland High School, Westbrook Seminary and received his medical degree from Bowdoin Medical School in 1900. He served his internship at Maine General Hospital, Portland and did postgraduate work at the Mayo Clinic.

He was made a Fellow of the American College of Surgeons in October, 1929 and was a member of the American Medical Association, Maine Medical Association and Oxford County Medical Society. He was made an Honorary Member of the State Association and County Society in 1950 and received his 55-year pin in 1955.

He was Councilor for the Second District, including Androscoggin, Franklin and Oxford counties, from 1939 to 1942.

Dr. McCarty began his practice in Rumford in 1902. He was surgeon-in-chief with the Rumford Hospital Association from 1915 to 1926; surgeon at Rumford Community Hospital 1926-1929; consulting surgeon at Childrens Hospital in Portland, and medical director and surgeon with the Oxford Paper Company in Rumford since 1902. He was also a member of Bingham Associates from 1931.

An honorary member of the Rumford Rotary Club and of the Rumford Lions Club, Dr. McCarty was a member of Blazing Star Lodge No. 30, A.F. and A.M.; Royal Arch Chapter; Strathglass Commandery No. 21, K.T.; Kora Temple, A.A.O.N.M.S.; and honorary member of the American Association of Industrial Physicians and Surgeons.

Surviving are five nephews, including Albert P. Royal Jr., M.D., of Rumford, and six nieces.

Eugene D. Tapley, M.D.
1874-1956

Eugene D. Tapley, M.D., 82, of Belfast died December 18, 1956.

Dr. Tapley was a member of the American Medical Association, Maine Medical Association and Waldo County Medical Society. In 1949 he became an Honorary Member of the State Association and County Society, and in 1954 he received his 55-year pin.

He was born February 10, 1874 in West Brooksville, Maine, the son of Thomas and Lucy Wasson Tapley. He graduated from Castine Normal School, from Colby College and received his medical degree from the Long Island College Hospital, New York in 1899. He served his internship at the New York Polyclinic Hospital and did postgraduate work at Guy's Hospital in London, England.

Dr. Tapley was chief of staff at the Bradbury Memorial Hospital in Belfast from the date of its establishment in 1923. He was a member of Tremont Lodge, A.F. and A.M. of Southwest Harbor for more than 50 years.

He is survived by his widow, Alice Collicott Tapley; a daughter, Mrs. Clinton S. Berrie of Brunswick and two granddaughters.

Announcements

Physicians Licensed To Practice Medicine And Surgery In The State Of Maine March 13, 1958

THROUGH EXAMINATION

Vladimirus Bazali, M.D., 12803 Brush Street, Detroit 3, Mich.
Domenico Antonio Di Donato, M.D., Massachusetts Memorial Hospital, Boston, Mass.
Lambro Dimitroff, M.D., 8883 Appleton, Detroit 39, Mich.
Maurice R. Guillemette, M.D., 274 Main Street, Lewiston, Me.
Theodore ch. Harami, M.D., 1268-52nd Street, Brooklyn 19, N. Y.
Eugene Hrabarchuk, M.D., State Hospital, Greystone Park, N. J.
Ralph Katz, M.D., Hospital of St. Raphael, New Haven 11, Conn.
William W. Koslow, M.D., V.A. Hospital, West Haven, Conn.
Joseph H. LaCasce, M.D., 24 Charles Street, Portland, Me.
Paul M. Lerner, M.D., 15 Ellery Street, Apt. 8, Cambridge, Mass.
Jacob Manol, M.D., 400 E. Mosholu Parkway, Bronx 58, N. Y.
Fernando Moreno-Pagan, M.D., 39 Park Place, Brooklyn 17, N. Y.
William Samellas, M.D., Bellevue Hospital, 27th St. & First Ave., New York, N. Y.
Hermann Karl Schueler, M.D., 75 Roslindale Ave., Roslindale, Mass.
Braulia Nelida Soriono, M.D., Brooklyn Veterans Hospital, Brooklyn, N. Y.
Elizabeth B. E. Williamson, M.D., Blue Hill, Me.

THROUGH RECIPROCITY

Thomas F. Dolan, Jr., M.D., 904 Lewis Avenue, Rockville, Md.
Helmut Gante, M.D., 884 Neil Avenue, Columbus, Ohio
John Alan Godsoe, M.D., 120 Capisic Street, Portland, Me.

Kenneth E. Jones, M.D., 4 Wayside Road, Wayland, Mass.
Edward C. Matthews, M.D., 710 Myrtle Avenue, Terrace Park, Ohio
Thomas Hans Newton, M.D., 68 Horadan Way, Roxbury, Mass.
Irving Joseph Poliner, M.D., 22 Lawrence Road, New Haven, Conn.
Thomas W. Williams, M.D., 31 Spring Street, Amherst, Mass.

Pineland Hospital and Training Center

Pownal, Maine
Carl Hedin General Hospital — Red Room
May 29, 1958 — Clinical Pathological Conference (Death Review and Microscopic Demonstration) 11:00 A.M.

Industrial Safety Training

The Business Management Institute of Colby College, Waterville, Maine will offer a basic and an advanced course in Industrial Safety, June 23 to 27, 1958.

An outstanding faculty in the field of industrial safety will conduct the program. A brochure outlining the courses, listing the teaching staff, and supplying other necessary information is available upon request. A fee of $75 will be charged and covers tuition, living quarters and food for each participant in the course. Organizations cooperating include: Associated Industries of Maine, Maine Association of Insurance Agents, Maine Department of Economic Development, Maine Department of Labor and Industry, Maine Federated Labor Council, AFL-CIO, Maine Medical Association, Maine Members, American Paper and Pulp Association, Maine State Chamber of Commerce and New England Shoe and Leather Association.

American Board of Obstetrics and Gynecology

Applications for certification (American Board of Obstetrics and Gynecology), new and reopened, Part I, and requests for re-examination Part II, are now being accepted. All candidates are urged to make such application at the earliest possible date. Deadline date for receipt of application is September 1, 1958. No applications can be accepted after that date.

Candidates for admission to the Examinations are required to submit with their application, an unbound 8½ x 11 typewritten list of all patients admitted to the hospitals where they practice, for the year preceding their application, or the year prior to their request for reopening of their application.

Current Bulletins outlining present requirements may be obtained by writing to the Secretarys' office: Robert L. Faulkner, M.D., 2105 Adelbert Road, Cleveland 6. Ohio.

For Sale

E.E.N.T. practice and large amount of good equipment including Ritter unit and motor chair, A-O Phorpter, chair, project-o-chart, etc. Hospital connections, no competition. Write for details —

John Colby Myer, M.D., 2 School St., Sanford, Maine.



Doctors, too, like "Premarin"

The reasons are fairly simple. Doctors like "Premarin," in the first place, because it really relieves the symptoms of the menopause. It doesn't just mask them — it replaces what the patient lacks — natural estrogen.

Furthermore, if the patient is suffering from headache, insomnia, and arthritic-like symptoms before the menopause and even after, "Premarin" takes care of that, too.

Women, of course, like "Premarin," too, because it quickly relieves their symptoms and gives them a "sense of well-being."

"PREMARIN"®
conjugated estrogens (equine)

Ayerst® Ayerst Laboratories • New York 16, New York • Montreal, Canada

5841

Letters To The Editor

To Editor of Maine Medical Journal:

In two cases in Loredo, Texas recently, doctors advised patients — one a diabetic and the other with a myocardial infarction — to drop accident and sickness policies they held with our Company. Both doctors thought their patient's histories of disability would prevent them from collecting claims. The advice, although it was well-intentioned, was a disservice to patients and doctors alike.

Both policies in question were our Substandard forms and they did provide coverage for recurrences of the diabetes or heart condition as well as for other illness and accidents covered by standard forms. Neither patient could get this kind of protection under ordinary policies and the doctor's mistaken advice evidently arose from a lack of knowledge that this kind of insurance is now available.

In the last few years Continental has made accident, sickness and hospitalization insurance available to hundreds who were formerly considered uninsurable. Men and women with histories of convulsive disorders, angina, coronary thrombosis, Cushing's Disease, argyria and various endocrinopathies — to name a few of over 150 conditions — are now insurable under Continental's Substandard contracts. Through use of slightly increased premiums and elimination periods for the specific condition this necessary advance in the field of accident and Health Insurance has been possible.

I am writing to ask if you will use this letter or any part of it in your local society journal. As physicians we are all well aware of the harm that has been caused our patients by well-meaning home remedies and old wives' tales. Unfortunately, the type of insurance advice we give often represents much the same error on our part.

Keeping up-to-date is our endless task. Please help your membership to keep up-to-date in this matter as well. I feel that it is of paramount importance that physicians understand the new advances that have taken place in the field so that insurance benefits are not withheld from the physically impaired — the very people who need accident and sickness protection the most.

Continental Casualty Company
Chicago, Illinois
Clem Martin, M.D.
Medical Director

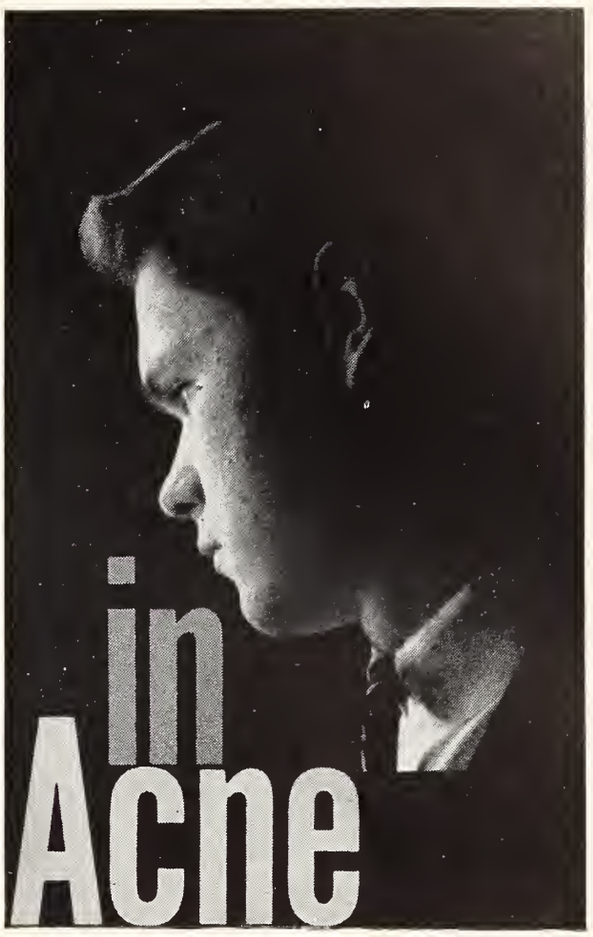
Letter to the Editor:

The recent report of the Ad Hoc Committee of the Surgeon General of the United States, after weighing the advantages and disadvantages of BCG vaccination, states: "It is believed, however, that the advantages of vaccination outweigh the disadvantages for tuberculin negative persons who are exposed to a definite risk of infection, especially if they cannot be retested frequently with tuberculin."

This Committee recommended BCG vaccination for those groups recommended by the American Trudeau Society, the American College of Chest Physicians, the American Medical Association, and the Medical Advisory Committee of Research Foundation.

The specific groups recommended for BCG vaccination by the American Trudeau Society are:

1. doctors, medical students, and nurses who are exposed to tuberculosis;
2. all hospital and laboratory personnel whose work exposes them to contact with the bacillus of tuberculosis;
3. individuals who are unavoidably exposed to infectious tuberculosis in the home;
4. patients and employees in mental hospitals, prisons,



"No patient failed to improve."[1]

pHisoHex washing added to standard treatment in acne produced results that "...far excelled...results with the many measures usually advocated."[1]

pHisoHex maintains normal skin pH, cleans and degerms better than soap. In acne, it removes oil and virtually all skin bacteria *without scrubbing.*

For best results—four to six washings a day with pHisoHex will keep the acne area "surgically" clean.

1. Hodges, F. T.: *GP* 14:86, Nov., 1956.

pHisoHex®

Sudsing nonalkaline antibacterial detergent—nonirritating, hypoallergenic. Contains 3% hexachlorophene.

Winthrop LABORATORIES
New York 18, N. Y.

and other custodial institutions in whom the incidence of tuberculosis is known to be high;

5. children and certain adults considered to have inferior resistance and living in communities in which the tuberculosis mortality rate is unusually high.

There have been numerous inquiries from all parts of the United States as to where BCG vaccine may be obtained. In order to assist those interested, the following information is offered:

BCG vaccine may be obtained by any licensed physician in the United States and its territories by writing to the laboratories of Research Foundation and the University of Illinois, the only institutions licensed to produce and distribute BCG in this country. The address of Research Foundation is: 70 West Hubbard Street, Chicago 10, Illinois.

Sol Roy Rosenthal, M.D., Ph.D., Medical Director, Research Foundation, and Director, Institution for TB Research, University of Illinois

---

To Editor of The Maine Medical Journal:

"How wonderful is the human voice! — It is indeed the organ of the soul. The intellect of man sits enthroned, visibly, on his forehead and in his eye, and the heart of man is written on his countenance, but the soul reveals itself in the voice only.' . . . *Longfellow.* — (So right was he!)

Alas! It is estimated, within our own borders, there are about 1,800,000 sufferers of 'strokes' and a great proportion have lost their voice — they became aphasics!!

In January, 1943, Hamilton Cameron, M.D., New York City, was stricken with a stroke, which paralyzed the right side of his body and rendered him speechless. He devised a One Hand Manual Language, known as the "Hand Talking Chart," that has proved a practical clinical aid, and has been a boon to those vocally paralyzed who hitherto had no such means of communication with those around them.

The Clergyman and Physician come closer together in the pastoral and medical care of those suffering strokes, and in their relationship to the International Research Council, medical confraternity. There is a greatly expanded distribution of the Hand Talking Chart to those in public health and in civil defense who work with stroke victims and the relatives who care for the paralyzed hemiplegia aphasic in their homes.

For twelve years, Dr. Cameron has been supplying the Chart to physicians and nurses, with no charge, and his work has been the subject of high compliment editorially in professional and lay publications.

For gratis copies of the Chart and detailed information of the Nature and Aims of the International Research Council, address Dr. Hamilton Cameron, General Director, 601 West 110th Street, New York 25, New York.

Hamilton Cameron, M.D.

NURSING HOME SERVICES — *Continued from page* 197

or irreversible organic damage. It is one thing to order a low fat diet and another to have a person understand what is medically desirable and how the diet helps to attain the objective.

Nursing and rest home operators are often asked to accept patients who are not under the regular care of a physician. Physicians may be called upon to visit these patients for the first time because their need for nursing care has not been determined in a manner acceptable for payment when the home is looking to the Department for its fees. When the physician cannot sufficiently determine the patient's condition so that the kind of care is evident at the time, he should make this known to the social worker. Provision for further study may be available and all resources will be considered.

Re-evaluation of the patients' needs for skilled care, ability to exercise self-care measures, needs for hospitalization, for a short-term intensive program as offered by a rehabilitation center is a part of the physician's continued responsibility for his patient and for promoting a sound medical assistance program.

The physician does not treat disease in a vacuum, nor the patient with the disease in a vacuum. His patient lives in a community and only as the physician knows what is going on can he fully utilize the resources within reach to the benefit of all. Sound medical programming is the responsibility of every physician and he can carry this responsibility by becoming informed, through cooperative individual case planning, through the efforts of the County Medical Society, the Maine Medical Association and through serving on Advisory Boards of allied professional societies.

WHY DON'T YOU GET YOUR PAY?

Over 500 physicians and 20 hospitals have increased their incomes by placing their accounts with us for adjustment, in a humane, honest and efficient manner. So can you — let us tell you how.

Reference: Maine Medical Association

MEDICAL AUDITING COUNSEL

297 WESTERN PROMENADE PORTLAND, MAINE

CLIP AND MAIL

Without obligation send me full details concerning your service.

Name .....

Street .....

City .....

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, June, 1958 | Number 6

The Cardiovascular Effects Of Ionizing Radiations†

A Tribute To Arthur Ulderic Desjardins, M.D.

Durwood J. Smith, M.D.*

Why should a paper entitled "The Cardiovascular Effects of Ionizing Radiations" be published in The Journal of the Maine Medical Association? Of what possible interest could this subject be to the practicing physician of Maine? These are proper questions and deserve thoughtful answers.

In these days of intercontinental bombers and ballistic missiles armed with nuclear warheads what physician can be certain that tomorrow *he* will not be responsible for the care of hundreds of patients suffering from the lethal effects of atomic radiations. This problem will not be the concern of the doctor practicing in and around our great cities — he will probably be dead or seriously injured by the initial attack. Furthermore, hospitals and clinical facilities available to him will either be destroyed or non-operational, due to radioactivity, failure of essential utilities, disruption of transportation, loss of staff, etc. Therefore, there is little doubt that the major responsibility for treating the evacuated victims of a nuclear attack upon Boston, or New York, will rest upon the medical profession of Maine, Vermont and New Hampshire. Exposure of man and animals produces several striking abnormalities of the cardiovascular system which may well play a leading role in the lethal process which may occur during the first 7-10 days following radiation. A summary of these clinical phenomena must be of value to any physician called upon to treat victims of atomic warfare.

Publication of this paper in The Journal of the Maine Medical Association is in tribute to Arthur Ulderic Desjardins, M.D., who published his monumental review of this subject in 1932.[1] Dr. Desjardins was born in Waterville, Maine in 1884. He joined the Mayo Clinic in 1919 and after a most distinguished career he retired from his post as Professor of Radiology of the Mayo Foundation in 1949. He returned to enjoy retirement in his native state and is now a resident of Walpole, Maine. Dr. Desjardins' paper entitled "Action of Roentgen Rays and Radium on the Heart and Lungs: Experimental Data and Clinical Radiotherapy" summarized the subject between 1895 and 1932 and, had it not been written, the present report could not have been prepared.

In July 1954 an intensive research program was initiated at the University of Vermont to define the effects of gamma radiation upon the cardiovascular system of

†This study was supported (in part) by funds provided under Contract AF 19(604)-1093 with the USAF School of Aviation Medicine, Randolph Field, Texas, and (in part) by Research Grant H-1450(C) from the National Heart Institute of the National Institute of Health, Public Health Service.

*Department of Pharmacology, University of Vermont, College of Medicine, Burlington, Vermont.

man and animals. No comprehensive summary of this subject had been published subsequent to the review by Dr. Desjardins. A comprehensive literature search was accomplished and approximately 3000 publications were reviewed and abstracted. These data were summarized in a 260-page report[2] to the USAF School of Aviation Medicine which was providing partial support for this project at that time.

Ionizing radiations produce two characteristic abnormalities of the cardiovascular system of man and animals. Obliterative vascular lesions of the peripheral blood vessels have long been recognized as characteristic sequelae of irradiation. Isolated observations of many other responses of the cardiovascular system have been recorded in the literature. The primary purpose of this paper has been to integrate these isolated observations into a comprehensive presentation of the "over-all' effects of ionizing radiation upon the cardiovascular system. The experimental and clinical observations during the past six decades may be summarized as follows:

1. *Clinical Symptoms and Signs:* Man, when he is exposed either to localized or whole body ionizing radiation, complains of shortness of breath and dyspnea on exertion. A few in the older age groups will complain of anginal symptoms which are suggestive of myocardial anoxemia. The pulse is frequently rapid and the patient may complain of irregular cardiac action. On examination, muffling of the heart sounds has been recorded and functional (hemic) murmurs with duplication of the second sound have occurred. Irradiated patients have accentuation of the pulmonic second sound; this is sound clinical evidence of pulmonary hypertension. The threshold dose for producing these signs and symptoms of cardiovascular abnormalities in a group of normal men is unknown. However, 60-75 r given to the heart produced reactions in about 50% of rheumatic fever patients treated with cardiac x-irradiation.

The dog initially has no particular cardiovascular disturbance except for an elevation of the pulse rate, which may be due solely to handling during the period of irradiation. Several days prior to death the fatally irradiated dog develops respiratory difficulty with deep abdominal respirations (the pulmonary edema seen at post-mortem is probably the explanation for this sign). The heart rate and temperature both increase markedly 24-48 hours prior to death while the blood pressure falls approximately 25 mm Hg at the same time. The threshold dose required to produce this triad is 250 r. Terminally, the extremities are cold and other evidences of circulatory collapse are seen.

Ionizing radiation produces an initial "shock-like" reaction in the rabbit which is assocated wth marked blood pressure changes. The terminal picture in this species shows cyanosis and coldness of the extremities, such signs being compatible with either cardiac failure or peripheral vascular collapse. Rabbits which survive both periods of cardiovascular instability usually had pale and cold extremities for 35-60 days following their recovery.

2. *Blood Pressure:* Blood pressure changes of the rabbit and rat (See Figure 1) following x-irradiation have a similar cycle consisting of an acute initial period of hypotension, followed by a temporary restoration of normal blood pressure approximately three hours post-irradiation. This is followed by a second and more prolonged period of hypotension terminating in either death or recovery 7-14 days after irradiation. Insufficient evidence is available to define the mechanisms by which ionizing radiation produces these changes in blood pressure, although abnormal levels of histamine, sodium, and VDM have been reported during periods of hypotension.

The time sequence of the blood pressure response of man to ionizing radiation has not been fully defined. However, either regional or whole body irradiation produces a significant hypotension in man. A fall in blood pressure has been reported following irradiation of cats and dogs. Details relative to the time sequence of these hypotensive episodes are lacking.

A fall in blood pressure is, therefore, a rather universal cardiovascular response of all species studied to the physical stress of ionizing radiation. In some species (rabbit) a dose of less than 15% of the lethal dose of x-rays results in an acute hypotensive episode. Whether this fall in blood pressure is the result of a diminished cardiac output or of decreased peripheral resistance remains to be determined.

3. *Vascular Physiology:* Ionizing radiation produces diffuse and irregular damage to the arteries, capillaries, and veins of man and animals. Damage to the peripheral vascular system is probably produced by a combination of the direct effect of irradiation on the component cells of the blood vessels, by modification in the neuromuscular control of the peripheral vascular system (directly or indirectly produced by irradiation), and by the release of histamine and other tissue hormones by the damaged tissue surrounding the blood vessels. The relative importance of each of these in producing damage and dysfunction to the peripheral vascular system remains to be determined.

Alterations in capillary permeability produced by irradiation play a significant role in producing changes in the red and white cell content of the peripheral blood.

Irregular occurrence of damage to arteries by whole body irradiation has been demonstrated by physiological techniques[3] which confirm and emphasize the irregular occurrence of damage to the peripheral vascular system which has been recognized histologically for many years.

The role which these peripheral vascular abnormalities caused by ionizing radiation play in the production of radiation sickness and radiation death remains

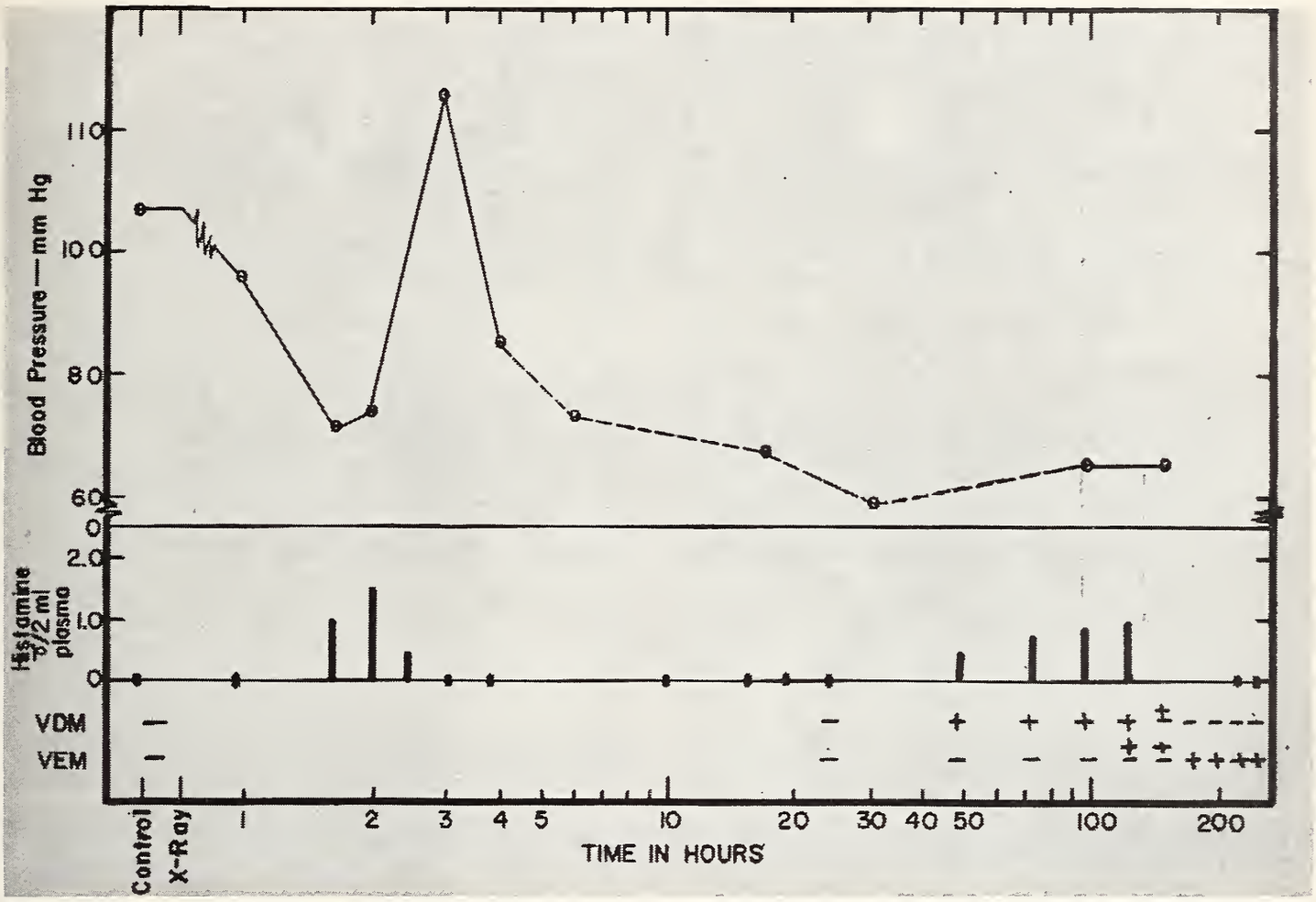


FIG. I. The sequence of blood pressure changes following x-irradiation of rats reported by two separate studies (solid line[5]; broken line[6]) have been charted against the two periods of reported increase in the plasma histamine levels,[7] and the varying amounts of VEM and VDM which have been observed.[7,8] The increase in plasma histamine may well play a role in producing the initial hypotensive episode; histamine is apparently not implicated in the later and more prolonged period of hypotension.

to be determined; however, its significance may be great.

4. *Vascular Pathology:* Ionizing radiation characteristically produces obliterative vascular lesions in man and animals. Recent combined physiological-pathological studies have demonstrated that damage to the arterial wall occurs within the first 5-10 days following radiation and may be segmental in distribution; a relatively normal length of artery may be found immediately adjacent to a completely nonreactive segment.[3] Ionizing radiation may interfere in an irregular manner with the nutrition of the arterial wall by damage to the vasa vasorum of the vessel. Little pathological data are available which specifically demonstrate damage to the vasa vasorum of the vessels by ionizing radiation. Evidence reviewed has suggested that vasa vasorum histology is abnormal following anoxia and following the injection of histamine. Ionizing radiation damages arteries, capillaries and veins. The mechanism by which this damage is produced has yet to be determined.

5. *Cardiac Physiology:* The isolated heart of animals tolerates ionizing radiation in doses 10 times (or greater) than that of the lethal dose for man without significant functional abnormalities. These data are strong evidence that irradiation does not directly injure the myocardium and the conduction system of the heart.

6. *Electrocardiographic Observations:* Ionizing radiation consistently produces changes in the T waves of the ECG. These changes are similar to the ECG abnormalities produced by anoxia or by the injection of histamine. Insufficient evidence exists to demonstrate that the increase of histamine is responsible for the electrocardiographic abnormalities. Further study may well demonstrate that the increase in plasma histamine is responsible for the T wave changes seen following radiation.

Previous studies show (less frequently) changes in the ST segment following radiation which are suggestive of myocardial anoxia and/or acute muscle damage. There is no direct evidence which relates this to histamine. However, the damaging effect of ionizing radiation upon the coronary arteries has been well established. ECG signs of acute injury to the heart muscle may be caused by abnormalities of the coronary blood vessels produced by ionizing radiation.

7. *Cardiac Pathology:* Ionizing radiation produces aseptic necrosis and hyaline fibrosis of the myocardium,

which, with narrowing of the coronary vessels, combine to form a fairly characteristic picture of cardiac damage secondary to ionizing radiation.[4]

Gross and miscroscopic evidence available to date indicate that the right auricle and ventricle in man, dog and rat are more severely damaged by ionizing radiation than are the left auricle and ventricle. Further well-controlled studies are required to confirm or deny the specificity of damage to the right heart produced by both localized and whole body radiation in these species.

8. *Coronary Pathology:* No data have been recorded in the past decade to modify the opinions expressed by Shields Warren[4] in the summary of his review of the effects of radiation on the heart: obliterative vascular changes (combined with aseptic necrosis and hyaline fibrosis) combine to form a fairly characteristic picture of cardiac damage secondary to ionizing radiation.

Summary

1. Our present knowledge concerning the effects of atomic radiations upon the cardiovascular system of man and animals has been reviewed.

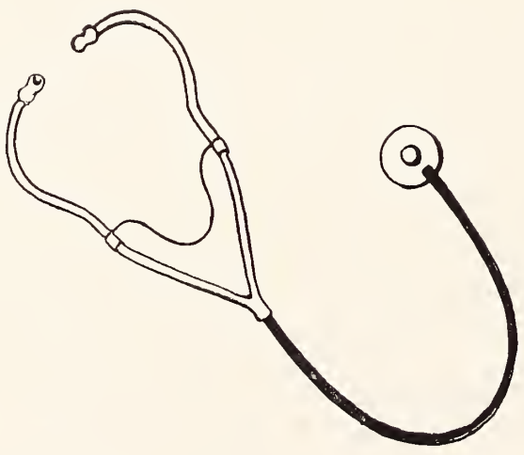
2. Tribute has been paid to Arthur Ulderic Desjardins, M.D., for his major contributions to radiation biology.

Acknowledgments

The support and encouragement of Colonels Ernest A. Pinson and Clyde A. Ray of the U.S. Air Force is gratefully acknowledged.

References

1. Desjardins, A. U. Action of roentgen rays and radium on the heart and lungs; experimental data and clinical radiotherapy. Am. J. Roentg. *27:* 149-176; 303-335; 477-495. *28:* 127-143; 271-292; 421-436; 567-578; 699-720 (1932).
2. Smith, D. J., Macmillan, W.H., Saunders, R. H. and Daniell, H. W. Effects of ionizing radiation upon the cardiovascular, biochemical, and hematological systems of man and animals: A review: Report No. 1. Contract AF 19(604)-1093, USAF School of Aviation Medicine, September 1955.
3. Mason, W. B., Alpert, S. and Smith, D. J. Studies on the pathogenesis of death due to x-ray exposure. 1. Abnormalities of the epinephrine and norepinephrine responses of carotid arteries of fasting dogs receiving 250 kvp exposures of 250r and 550r. (UR-278). Sept. 8, (1953).
4. Warren, S. Effects of radiation on normal tissues. V. Effects on the respiratory system. Arch. Path. *34:* 917-931 (1942).
5. Weber, R. P. and Steggerda, F. R. Histamine in rat plasma: Correlation with blood pressure changes following x-irradiation. Proc. Soc. Exp. Biol., N. Y. *70:* 261-263 (1949).
6. Montgomery, P. O'B. and Warren, S. Therapy of acute radiation hypotension in the rat. (AECU-1992).
7. Haley, T. J. The release and identification of blood borne vasotropic substances after whole body irradiation. N. Y. Academy of Science Ser. 11, *14*: 303-305 (1952).
8. Haley, T. J., Andem, M. R., Riley, R. F. and Williams, I. The presence and identity of vasotropic substances in the blood of rats subjected to acute whole body roentgen ray irradiation. (UCLA-161). Am. J. Physiol. *168*: 628-636 (1952).



To Do, Or Not To Do, That Is The Question . . .

(In Support of Ulnar Nerve Transplantation in Injuries of the Elbow) — Case Reports

E. D. Aboulafia, M.D.*

Ulnar nerve complications associated with crush injuries or fractures of the elbow are well recognized and need not be dwelt upon. Even when signs of same are present, it has been debated in the literature as to whether or not immediate surgical intervention for transplantation of the ulnar nerve into the anterior compartment of the elbow is to be advocated. Many surgeons feel that an initial paralysis of the nerve would very often disappear subsequently on conservative treatment alone (Ferguson)[1]. The situation becomes even more problematic when no clinical signs of ulnar nerve injury are present at the time the patient is first seen by the practicing physician following the injury.

The following two cases illustrate two instances of tardive appearance of symptoms and clinical findings related to the ulnar nerve, which followed the initial injury by many years. Oddly enough, the two patients came to seek medical help on the same day within minutes of each other. These cases, by their long-range outcome, seem to lend support to Watson-Jones'[2] opinion that whenever surgical intervention for the open treatment of fractures involving the lower humeral epiphysis through a medial approach is indicated, prophylactic transplantation of the ulnar nerve to the anterior compartment of the elbow is to be advocated.

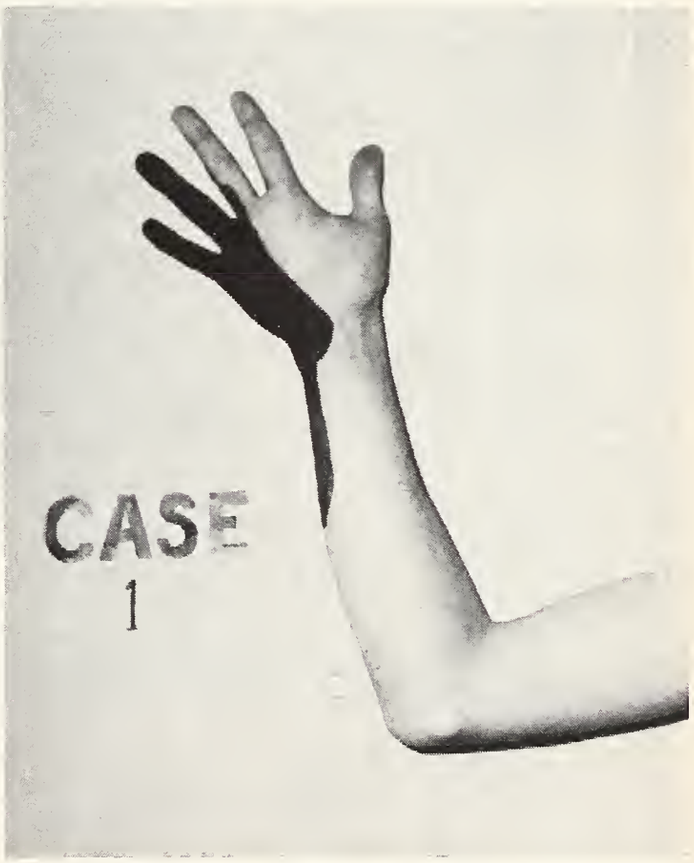


Fig. I. Mapping of ulnar nerve hypo-esthesia of the right forearm and hand.

Case Reports

Case #1. HRP: Twenty-year-old, well developed, well nourished white male in no acute physical distress presented himself at the U. S. Naval Air Station Hospital in Brunswick, Maine, complaining of "locking" of right elbow. *History:* At the age of four years the patient sustained an injury to his right elbow when he fell off his bicycle. He was treated by a physician who attempted five consecutive closed reductions without success. At the end of two weeks he was referred to a "specialist" who performed an open reduction of a supra-condylar fracture through a lateral approach. The patient remained in a cast for eight months and following its removal, had physio-therapy for a period of an additional ten months. Ever since, the patient has had limitation of extension of the elbow joint of about 30 degrees. For the past 3-4 years the patient has had episodes of "locking" of the elbow joint lasting from a few hours to ten days. "Unlocking" is spontaneous. When these episodes occur, the patient loses all ability to flex or extend his elbow.

For the past year the patient has been developing paresthesias in the right hand, along the ulnar nerve distribution, becoming progressively more and more subjectively noticeable. *Examination* reveals, in addition to the limitation of extension of the elbow joint described above, a typical hypo-esthesia along the distribu-

*Lieutenant, Medical Corps, U. S. Naval Air Station, Brunswick, Maine. Resident in Surgery on leave of absence from the Department of Surgery, New York University Postgraduate Medical School, Bellevue Medical Center, New York, New York.

Opinions and conclusions contained herein are those of the author and do not necessarily reflect the views of the Department of Defense or of the Naval Service.

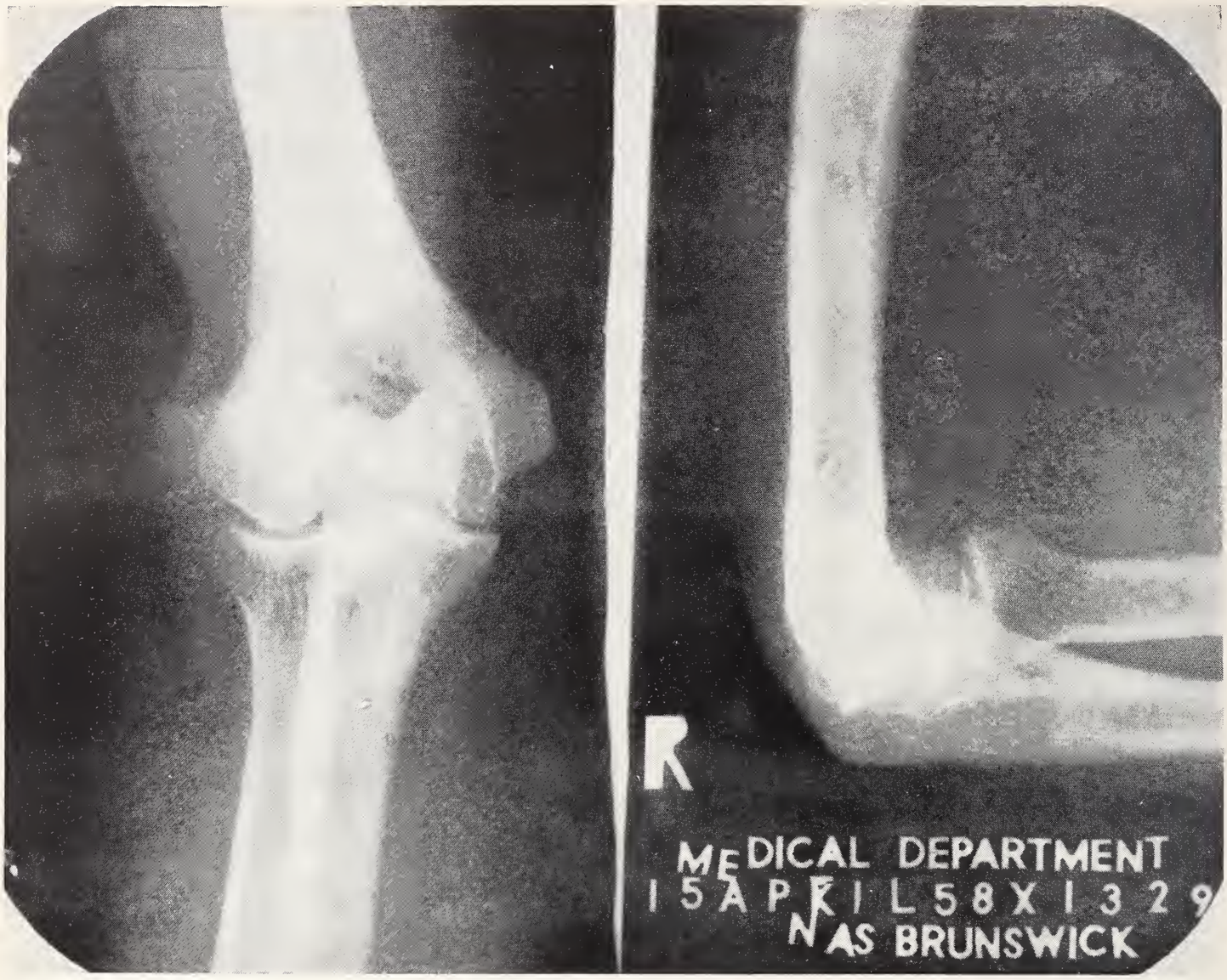


FIG. II. X-Ray showing well-healed supra-condylar fracture with the marked derangement in the normal anatomic position. Also note the presence of at least two calcific densities.

tion of the ulnar nerve in the right hand (Fig. I). There is no evidence of muscular weakness of the hand, intrinsic or extrinsic. Over the lateral aspect of the right elbow there is a 12cm. long well-healed operative scar.

X-Rays (Fig. II) reveal a well-healed supra-condylar fracture of the right humerus in poor anatomic position with the condylar portion presenting a 90 degree forward angulation to the shaft of the humerus. There are also two small calcifications, one of which is probably within the joint capsule.

Remarks: In this particular case it is obvious that much of the disability stems from the poor relationship of the condylar to the humeral shaft portions presenting an anterior angulation of 90 degrees instead of the ideal 25-30 degrees which would correspond to the normal anatomical position. Furthermore, there is no question that the limitation of extension is due to the poor relationship between the trochlea and sigmoid fossa of the olecranon. "Locking" and "unlocking" episodes are probably due to the marked destruction of the normal anatomy of the components of the elbow joint, the joint "mouse", and fibrosis of the joint capsule which is common in this type of injury. However, there is definite evidence of ulnar nerve irritation at present, and it is getting progressively worse.

Case #2, REW: Thirty-three-year-old, well developed, well nourished white male admitted to U. S. Naval Air Station Hospital, Brunswick, Maine, complaining of a painful elbow, and paresthesia in the right hand. *History:* At the age of eight years the patient sustained fairly severe trauma to his right elbow joint which was never seen nor treated by a physician. The patient recalls having been unable to use his elbow at the time for a period of approximately one month. For over twenty years the patient has had intermittent episodes of pain in his right elbow. Over the past few years the pain has been getting severe enough to warrant putting the right upper extremity at rest in a sling for periods up to three weeks. Over the past

year this pain has been associated sometimes with inability to fully extend the elbow. For the past 2-3 years the patient has been complaining of "tingling" off and on in the third, fourth and fifth fingers of the right hand, progressing slowly to almost complete "numbness" of these fingers.

Examination: Clinical findings are confined to the right elbow where there is slight deformity of the medial aspect of the elbow due to absence of full development of the medial condyle. There is typical ulnar nerve distribution hypo-esthesia of the right hand (Fig. III), associated with definite weakness of ulnar lumbrical muscles and interosseus muscles. There is hesitation and limitation in extension of the elbow of five degrees on supination and ten degrees on pronation of the forearm, respectively. X-Rays of the right elbow (Fig. IV) reveal old separation of the medial condylar epiphysis of the right humerus, which does not seem to be within the joint space.

Remarks: This case represents the sequella of an unrecognized and untreated epiphyseal separation of the medial humeral condyle. In this case too, there is at present evidence of progressive involvement of the ulnar nerve, probably due to pressure symptoms. Inasmuch as the bony fragment (the old separated medial epiphysis) does not show X-Ray evidence of necrosis, it must be assumed that the flexor-pronator group of muscles still inserts at this point, and the removal of the fragment would be impracticable. The present alternative is, of course, to do an anterior transplantation of the ulnar nerve.



FIG. III. Surface mapping of ulnar nerve hypo-esthesia of the right forearm and hand. Note the absence of full development at site of the medial condyle.

DISCUSSION

The two cases cited above represent late sequellae of elbow joint injury, with tardive appearance (after many years) of symptoms suggesting pressure on the ulnar nerve. In the first case, in which open reduction of the supra-condylar fracture was performed, the present complications (of the nerve symptoms alone) might have been avoided had the anterior transplantation been effected at the time. The second case, which never received medical attention, represents a type of case which is often seen by the general surgeon, the general practitioner, the orthopedic surgeon, or the pediatrician. Many similar injuries may be treated by open reduction. It is felt, therefore, that it is justified to perform an anterior transplantation of the ulnar nerve when an operative correction of a slipped medial condylar epiphysis or a fractured medial condyle is done. The degree of epiphyseal separation in the second patient is definitely a borderline case. Had the patient been seen at the time of the injury, it is debatable whether operative procedure for the replacement and fixation of the slipped epiphysis would have been indicated at all, yet in spite of the relative mildness in degree of separation, many years later we get definite evidence of late ulnar nerve involvement.

What constitutes proper criteria for surgery in such cases is quite debatable, and is not within the scope of this discussion. Opinions vary considerably. Banks[3] feels that an open reduction of the fractured medial condyle is indicated in all patients in whom there is a significant degree of displacement of the fragment, and that ulnar nerve transplantation is advised only in *some selected* cases. Hoover[4] feels that *all* cases of fractures of the medial epicondyle should come to open reduction, yet no transplantation of the ulnar nerve is recommended by him. Roberts[5] has reported on his treating fractures of the medial epicondyle by closed manipulation alone where the epicondyle was actually in the elbow joint, with marked separation. Whatever the individual indications and the personal feelings of the surgeon might be as to whether a patient should or should not be treated by an open reduction, it is suggested that those cases that *do* reach the operating room for open surgery through a Campbell-Moleworth[6] approach should, in addition to the correction of the deformity, have an anterior transplantation of the ulnar nerve. This, when properly performed, carries no additional risk, is not time-consuming, and can prevent late complications such as occurred in the above patients. To put it in Watson-Jones' own words, "It seems a pity to neglect the opportunity of relieving the nerve from the effects of thickening and irregularity of the post-condylar groove which are almost inevitable."

It is interesting to note that Kennedy[7] has had occasion to transplant the ulnar nerve for late complica-



FIG. IV. X-Rays show poor development of the medial condyle as well as the separated fragment corresponding to the old slipped epiphysis.

tions involving fractures of the external condyle in which the epiphyseal line fused, growth stopped on the lateral side, and marked valgus gradually produced too much pull on the ulnar nerve.

REFERENCES

1. Ferguson, L. K., *Surgery of the Ambulatory Patient,* P. 782, 2nd Edition, 1947, J. B. Lippincott Company.
2. Watson-Jones, R., *Fractures and Joint Injuries,* Vol. II, P. 547, 4th Edition, 1955, Williams & Wilkins Company.
3. Banks, Sam W., *Christopher's Textbook of Surgery,* P. 1003, 6th Edition, 1956, W. B. Saunders Company.
4. Hoover, M. J., *Operative Surgery,* by G. W. Horsley and I. A. Bigger, 1953, the C. V. Mosby Company.
5. Roberts, N. W., *Internal Epicondyle in Elbow — Four Cases Reduced by Manipulation,* Lancet, 1934, 2, 78.
6. Campbell & Moleworth as described in Callander's *Surgical Anatomy,* 3rd Edition, P. 777, 1952, W. B. Saunders & Company.
7. Kennedy, Robert H., personal communication.

Appreciation is expressed to Dr. E. H. Joy, Captain, Medical Corps, U. S. Navy, Senior Medical Officer, U. S. Naval Air Station, Brunswick, Maine, for his encouragement and permission to report these cases.

Integration Of The Fourth Year Of College With The First Year Of Medical School Two Years' Experience

GEORGE A. WOLF, JR., M.D.*

A new program described in some detail[1] has made it possible for students at the University of Vermont to integrate the work of the fourth year of college with that of the first year of medical school. During the first year of the program, (fourth year of college), they take Anatomy, Histology, Neuroanatomy, Psychobiology and Human Ecology in the medical school in addition to the courses of their choice in the arts college.

In the second year of the program, (first medical school year), they take Physiology and Biochemistry plus the arts college courses of their choice.

This program has been made possible as a result of cooperation between the arts and the medical college faculties and because the College of Medicine is an integral part of the campus of the University.

DATA

The sources of data include academic grades of the ten students in the program in their arts and medical courses, the results of the collegiate (ACE) and medical college (MCAT) aptitude tests, a questionnaire designed to elicit certain attitudes on the part of the students, and faculty comment.

*Dean, College of Medicine, The University of Vermont, Burlington, Vermont.

One student, a Chemistry major, left the program while doing well in Chemistry and very poorly in Gross Anatomy. He stated that he did not want to become a doctor and is now pursuing successfully a master's degree in Chemistry.

The remaining nine students were shown to be somewhat similar in the performance and attitude, although five have completed the second year and four the first year of the program.

Aptitude Measurements — Figure I presents the aptitude scores of each student in the program as of June 1957. It will be noted that their abilities as measured by these testing procedures vary greatly. Although these students had satisfactory academic records in college, they were not selected for superior academic performance or for superior aptitude scores.

Selection of Courses — The number of semesters of courses taken in the various arts college departments is shown in Figure II. The courses chosen were not considered by faculty or students as easy or "snap" courses. The emphasis on psychology has been discussed with the chairman of that department. He feels the reasons for the concentration in his department include (a) a campus rumor that students with psychology majors are more readily accepted by medical schools and (b) stress in the elementary psychology

FIGURE I

UVM 1st yr. Aptitude Test		*MCAT — Weighted Score (3rd yr.)*			
Student	*Percentile Rank*	*V.A.*	*Q.A.*	*M.S.*	*S.I.*
A	94	615	555	494	495
B	94	695	625	585	505
C	49	435	535	515	385
D	37	435	495	445	355
E	12	415	385	405	475
F		Withdrew from program			
G	74	595	435	535	515
H	88	455	505	475	415
I	30	455	485	495	495
J	87	505	645	565	525
		(500=50 percentile)			

FIGURE II

Distribution of Academic Courses taken by Special Students	
Psychology	23
Zoology	12
Sociology	8
Philosophy	7
Development of Science	6
Literature	4
Political Science	4
History	3
Art	2
Botany	2
German	1
Physical Education	1

FIGURE III

Student	*Arts College Average During Program*	*Prior Average in Arts College*
A_2	83.3	82
B_2	89.1	93
C_2	85.4	86
D_2	87.6	87
E_2	85.7	85
F_2	Withdrew from program.	
G_1	87.8	86
H_1	87	81
I_1	89.1	85
J_1	85.3	84
Senior class average — 1955-1956: 80.33		
Senior class average — 1956-1957: 79.72		

FIGURE IV

Student	*Medical College Average*
A_2	86.8
B_2	88
C_2	85
D_2	86
E_2	87
F_2	Withdrew from program
G_1	86.6
H_1	84.6
I_1	90.3
J_1	87.3
Medical college class average: 81	

courses and the popular literature on the relevance of psychology to the practice of medicine.

No attempt is made by the College of Medicine faculty to specify the courses to be taken in the arts college during the program. All medical college prerequisites are taken prior to admission to the program. Some forced selection does occur, however, because of requirements for a major in the undergraduate college and scheduling conflicts. The relatively small number of natural science courses taken in thus the student's choice.

Academic Performance — The numerical grades in the arts college courses as listed in Figure III indicate performance in the program comparable to or better than the prior performance of the individual student and better than the arts college average of their classmates. Figure IV illustrates that performance in the medical college was better than average and in some cases superior in the most difficult subjects in the first year in this medical school.

Attitudes of Students — A simple questionnaire was filled out by the students and the answers revealed (a) early admission to medical college is their prime motivating factor (b) although a few of the men wished they were regular medical students in the early part of the program, this attitude disappeared as time passed (c) all found the work load easier, although some stated they worked harder because they were nearer to their goal (d) none expressed feelings of superiority over their regular student confreres (e) some showed evidence of maturation during the program (f) all liked the program and admitted that its aims were real.

Opinions of the Faculty — In general the faculty of the medical and arts college involved in the program are favorable to it and voice no compaints. A few, when questioned directly, approve of it highly. One said, "It emphasizes that education is a continuous process." Another, "The students are strongly motivated and make my classes more interesting. They question my statements and raise questions." Another said, "I was opposed to it at first, but the students do not think only in terms of the application of their arts subjects to medicine." Still another said, "The regular medical students envy the students in the program because the latter have more time to study medical school courses."

Discussion — Although we cannot point specifically to any one of a multitude of factors which must influence students in the program and which apparently have resulted in their doing better work so far, from a purely academic standpoint several statements might be made.

In the course of conducting the program, weekly dinners are held at which discussions of topics agreed upon previously are carried on by the group. These meetings are attended by the Dean of the medical college, the Dean of the arts college and senior members of the faculty of both colleges. Certain of the men attend the majority of the meetings while others are invited guests who attend only occasionally. These dinners have been referred to as a special privilege and thus may be a factor in motivating the students to do better work.

The settling of the question of admission to medical college at an early date seems to have some beneficial effect upon the student.

An ill-defined aspect of the program, possibly maturation of the student, possibly the challenge of a new program, possibly the threat by the College of Medicine that performance in the undergraduate college would be considered along with their work on the medical campus for advancement, resulted in superior academic performance in all subjects, both medical and undergraduate.

The program may be criticized because (1) the students so far have done no independent work. This may be expecting too much at this level. (2) The program does not go far enough. Possibly it should extend time-wise more deeply into the medical college course and back through the junior year of college. The former move would undoubtedly demand less restricting course requirements in the College of Medicine or more scheduled free time. The latter might demand some modification of the major and minor requirements and liberalizing of the medical admission prerequisites. (3) The major question, will these men make better doctors and citizens as yet remains unanswered.

It is still possible that the students may have academic difficulties when exposed to the rigors of the normal second year of the medical school. Some will say they haven't been tried, tested or hardened. If they do experience difficulty in the second year, the above reasons should not be accepted until the nature of the program of the second year as it now exists is carefully scrutinized.

In summary, it would appear that a motivating device has been developed for a few students by simple manipulation of the curriculum which resulted in integration of the fourth year of college and the first year of medical school. Our data do not tell us whether the manipulation per se or as someone said the "trappings" of the program achieved the results or whether something more profound has been accomplished.

It would appear, however, that a continued search for other methods of motivating students in medical school and undergraduate colleges is in order.

REFERENCE

1. Wolf, G. A., Jr. Integration of the Last Year of College and the First Year of Medical School — Journal of Medical Education 32:573-579, 1957.

"Sympathectomy for hypertension shares with laminectomy for prolapsed disc and vagotomy for peptic ulcer the questionable distinction of having been among the most fashionable operations of recent years. Yet, it has lately been said that 'few operations' are more dead today. . . . But the fact that sympathectomy does not cure hypertension does not mean that it cannot help many hypertensive patients." Leading Articles, **The Lancet**, Nov. 17, 1956, p. 1031.

"If I were to develop a duodenal ulcer resistant to medical treatment, such are my misgivings at present about gastrectomy that I think I would try to persuade my old chief to emerge from his retirement, to perform upon me a simple gastrojejunostomy, and to allow me to take my chance of a stomach ulcer." Eric L. Farquharson, **The Lancet**, Oct. 27, 1956, p. 851. Selected by Andrew M. Babey, M.D., Las Cruces, N. M.

Is The Practice Of Medicine Compatible With Clinical Research?

Borys Surawicz, M.D.*

No one will dispute the fact that the primary responsibility of the physician is to take care of his sick fellowman. We physicians receive a very long and a very costly education in order to acquire the necessary knowledge and skill before settling down to practice our profession. Practicing medicine requires the physician to live up to certain moral principles which were outlined several thousand years ago by Hippocrates. Curiously enough, these principles have not changed appreciably since. The physician who embarks on a clinical career is expected to maintain these moral principles during his entire lifetime of practice. However, the body of knowledge used to help patients in the most effective manner undergoes continuous and rapid metamorphoses. These changes occur frequently from day to day, from month to month. Thus, in spite of long years spent in medical school and later postgraduate training, we are forced to study continuously. The amount of new concepts thrown at us almost every day, new theoretical and practical discoveries, new laboratory tests, new drugs, is absolutely fantastic. The number of new medical journals and new medical books appearing weekly in each field is such, that if we were to read only titles and summaries of material pertinent to our field of interest, we could probably devote several hours daily with ease.

All of you know how much time it would require to read everything that the mailman brings every day to our offices. I am sure that we all have developed some way of handling these problems, and I suspect that the wastepaper basket plays an important role in everybody's postgraduate educational program. Yet, in spite of a certain immunity to all of these new publications and preparations, we develop some sort of instinct for picking out of the maze, those facts which are definitely useful to our patients. When we examine ourselves and compare our methods of handling certain problems today with those of a few years ago, we frequently discover important differences. These important differences enable us to contribute our share to the task of decreasing the incidence of all kinds of infection, improving therapy in many chronic diseases, and help increase the average life span of the people living in this country. We proudly call it progress, and we are justly proud of using the tools which progress offers us. These tools are made by the medical scientists for our use in practice.

Now, is there really a sharp dividing line between the practitioner and the medical scientist who developed these new tools? Probably not, as the scientists have to do some practice to become acquainted with the problems, and the practitioners have to evaluate the results of their trials in a scientific way. Perhaps, after all, it is our duty not only to do a good job with our patients, but also it is our duty to try now and then to stop and evaluate the results of our experiences, and to compare them with those of our colleagues in other towns and cities. Perhaps we might even suggest a new idea of our own which would be of help to someone's patient in the future. In other words, we may feel an urge to become scientists and practitioners at the same time. The expression "scientists" is probably too strong, and I think that for the sake of our own modesty, we should replace it with a less glamorous word like researchers or clinical investigators.

Now I am coming to the problem that really bothers me, and which prompted me to do this writing. Can a good practitioner do a good piece of research and vice versa, can a good investigator do a good job in practice. After quick thought, the answer will probably be a cautious, "Probably not very likely."

Research and practice frequently will require different methods of working, thinking and handling problems. If one is inclined to proceed one way, he may find it difficult to turn quickly to another way. Some of the differences which occur to me at the moment are:

1) *Approach to a problem.* An investigator can adopt only a rational approach to a problem. A practitioner may find himself in a sphere where spiritual values far outweigh rational motivations.

2) *Way of thinking.* An investigator is slow in making decisions, and jumping to conclusions. He always asks for more facts and does not disregard anything that does not seem to fit into his present concepts. A practitioner frequently works under pressure. His decision as to what is important and reliable or unimportant and unreliable is made without hesitation.

3) *Emotional involvement.* An ideal investigator remains emotionally uninvolved in the results of his research. He has to accept them as they come without

*Assistant Professor of Experimental Medicine and Instructor of Clinical Medicine, College of Medicine, University of Vermont, Burlington, Vermont.

being unhappy if they do not meet his expectations and he should not be unduly enthusiastic if results "come out the right way." Being emotional about an investigation may cover up the truth unwillingly. The practitioner has to get emotionally involved in the problems of his patients. He needs the ability of quick evaluation of personality. He may change his attitude, language, way of reasoning if he feels that it is necessary in order to obtain better cooperation. His emotional involvment may be of more help to the patient at a certain time than anything the science could ever offer.

4) *Absolute truth.* An investigator is inclined to accept only one certain fact or statement as either true or false. In practice we may have to call the same thing different names if the benefit of the patient requires this.

5) *Hesitance vs. Assurance.* An investigator is always inclined to doubt his own interpretations and conclusions and tries to subject them to frequent re-appraisal. Such a prolonged period is not only impractical, but may be damaging to a patient.

6) *Elasticity vs. Rigidity.* Only by being very exact and meticulous can an experiment be conducted. Any deviation from such a pathway will distort the results of the investigation. In practice we cannot afford to be very exact and meticulous always. On the contrary, elasticity of approach may be more valuable than a rigid scheme of action.

7) *Timing.* No investigation can be conducted without ample time for preparation. The loss of too much time can be damaging to practice.

8) *Planning.* A controlled study is absolutely essential to the investigator. A control study in most instances, would be impractical in clinical practice.

9) *Chance occurrence.* An investigator cannot leave anything to chance. The practitioner lives in a milieu of chance. He may not only be exposed to chance, but may even have to take a chance now and then.

All of this leads to a question which I would like to throw out for possible general discussion: Does this mean that one person cannot be a practitioner and an investigator at the same time or does it mean that a person who wants to do both must be capable of self-readjustment?

"In S. B. E. due to Str. viridans the evidence overwhelmingly incriminates the teeth as the all-important source of infection. So long as teeth or fragments of teeth remain in the jaws a formidable, but preventable, hazard is ever present in the lives of these patients, and we postulate that in all patients who develop S. B. E. due to Str. viridans scrupulous complete dental clearance should be carried out as an essential item of the therapeutic attack upon the disease." F. G. Hobson, **British Medical Journal**, Dec. 29, 1956, Page 1505. Selected by Andrew M. Babey, Las Cruces, N. M.

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D.	Togus	Fourth District, JAMES E. POULIN, M.D.	Waterville
Second District, WALDO A. CLAPP, M.D.	Lewiston	Fifth District, MARCUS A. TORREY, M.D.	Ellsworth
Third District, RALPH P. EARLE, M.D.	Vinalhaven	Sixth District, RICHARD C. WADSWORTH, M.D.	Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville PEARL R. FISHER, R.N., Waterville

Across The Desk

Medicare and the Federal Congress

(Report of House Appropriations Committee)

Cost Held To Be High

"Title II of the Dependents Medical Care Act (Public Law 569, 84th Congress) provided in part that in order to insure the availability of medical care for the spouses and children who were dependents of the members of the uniformed services, the Secretary of Defense should contract for the medical care of such persons pursuant to the provisions prescribed under such insurance, medical service or health plans as he deemed appropriate. Despite a sizeable reduction in the military personnel of the armed forces since the enactment of the law, the cost for fiscal year 1958 has grown to over $75 million and for 1959 is estimated to be approximately $70 million.

"One of the major reasons for these costs has been the failure of the Secretary of Defense to require that military medical facilities be used for treatment of dependents where such facilities are adequate and available. A comparison of the cost per patient day for the three services and for the Dependents Medical Care Act during fiscal year 1957 reveals a substantial cost differential:

Cost per patient day for fiscal year 1957	
Navy	$16.24
Army	26.42
Air Force	24.64
DMCA	45.00

Comparison of Expenses

"The Services' costs represent average costs. The DMCA cost is an estimated cost but does not include administrative costs or the fee paid by the dependent. Admittedly these figures are not fully comparable in that the government does not experience some of the costs incurred by private medical facilities. The figures are comparable however, in one phase which is vital to the economical operation of this program. They do represent out-of-pocket costs to the government for the cost per patient day in medical facilities both private and military.

"Since 1957 the DMCA cost has risen to $50.00 a day while the service cost per patient day has remained approximately the same. Even these wide cost differentials do not represent the true picture. On page 721 of the committee hearings, the military services state that the additional cost of caring for dependents in government facilities not presently used to their optimum is considerably less than the actual cost per patient day. The Air Force, for example, estimates that the additional costs across the board would be approximately $10 per patient day.

Military Beds Unused

"That existing military medical facilities are not being used to their optimum economic capacity is obvious. As of December 31, 1957, the normal bed capacity of the medical facilities of the three services was 84,877. The operating beds totaled 41,798 and of this number

the daily average occupied beds was only 30,444. Of this latter amount, only 5,872 were occupied by dependents. In the first year of operation of the Dependents Medical Care Act which became effective December 7, 1956, dependent-occupied beds in armed forces facilities decreased by approximately 1,000.

"In addition to the costs being incurred by the federal government due to the administration of the Dependents Medical Care Act, the decrease in the number of dependents, especially in obstetrical cases, has had a serious effect on the training program of the services so that they are faced with an inability to train the number of interns required for their needs.

Free Choice Abridgment

"This matter was called to the attention of the Department of Defense in the report accompanying the Department of Defense Appropriation Bill for 1958 and the Committee expressed the belief that the free choice element in the Dependents Medical Care regulation should be amended so as to *not* (underline supplied) permit dependents to utilize civilian medical and/or hospital services unless a positive determination was made by the appropriate authority that without augmentation the military hospital facilities and medical personnel in the general area in which the dependents reside were inadequate.

"The recommendations of the Committee were disregarded by the Department of Defense. The Committee concurs in the remarks made by the Hon. Paul Kilday, who was chairman of the Armed Services Subcommittee which formulated this legislation, when he presented this bill to the House. Speaking of the free choice provision, Mr. Kilday stated (Cong. Record, March 2, 1956, p. 3849):

> " 'Therefore, all that this provides is that the Secretary may require them (dependents) to go into a military hospital if at that particular time and for that particular dependent there is available space and facilities to treat the patient. The point is that we have hospitals in existence in the military services, I should say in the uniformed services, which are in operation and are staffed. I think it is entirely proper that we should see to it that they are utilized.'

Funds Sharply Reduced

"In an effort to improve the utilization of existing facilities under this program, the Committee has provided language in section 633 of the bill which provides that no part of the funds contained in this bill may be used to incur obligations in excess of $60 million for the medical care of dependents in civilian facilities by civilian doctors as authorized by section 201 of the Act of June 7, 1956 (Public Law 569, 84th Congress).

"Appropriate reductions have been made in the medical care programs of the three services. The Committee believes that this limitation can be achieved without denying authorized care to the dependents of military personnel, if the Secretary of Defense will issue such regulations as are necessary to require the dependents to use military medical facilities and personnel where they are adequate and available.

"It is not the recommendation of the Committee that additional facilities be constructed or additional employees be added for the purpose of caring for dependents in service facilities. The objective is the reasonable utilization of existing facilities and personnel."

Tubeless Gastric Analysis Gives Few False Reactions

A new study has shown that the tubeless gastric analysis technique is reliable in the presence of disease previously thought to make it useless.

Drs. Theodore Rodman, Arnold Gutman and Ralph M. Myerson, Veterans Administration Hospital, Philadelphia, said the technique works even when the patient has heart disease, miscellaneous other diseases and mild to moderately severe liver and kidney diseases.

The gastric analysis test detects the presence or absence of hydrochloric acid in the stomach. In the tubeless technique, an organic dye is swallowed. A color test of the urine indicates the presence or absence of acid.

Prepaid Dental Care on Rise Despite Dissenters

Although it is only four years since third party payment was fully accepted by the dental profession, group purchase of dental care on a prepaid basis has taken a firm foothold. Dr. Walter J. Pelton, chief of dental resources division in PHS, stressed that point at a symposium on prepaid financing of dental services sponsored by the Community Council of Greater New York.

"Prepayment, like installment, buying is here to stay," said the speaker, while acknowledging that many dental groups still disapprove of dental prepayment in theory and practice. "The failure of dentistry to cooperate with consumer groups will mean only that the consumers will be forced to formulate their own plans without the aid of professional men."

The Government unit which Dr. Pelton heads will soon submit its latest report on dental manpower to New England Board of Higher Education. Among findings: Maine and Vermont have fewer dentists than at any time since 1920. Only Connecticut and Rhode Island have recorded significant gains since 1940. One New England dentist in every three is 55 years or older.

Radioactivity in Milk is within Safe Limits

Following a year-long pilot study, Public Health Service announces that milk consumed in and about Sacramento, Salt Lake City, St. Louis, Cincinnati and New York City is well below permissible limits for

radioactivity. Strontium 90 concentrations in the samples ranged from 3.4 to 7.4 micromicrocuries per liter, or no more than one-tenth the maximum permissible concentration for regular consumption.

Berry Advises Leadership

Delivering the J. Shelton Horsley Memorial Lecture at Medical College of Virginia recently, Assistant Secretary of Defense Frank B. Berry counseled organized medicine to shed its role as the constant dissenter, the inevitable *nyet* when proposals are advanced which embody departures from ordinary practice in payment for medical services. Leadership by medicine is needed, not unquestioning protection of the status quo, Dr. Berry said, in substance.

$81.9 Million Donated in U. S. Surplus Goods

In the first quarter of 1958, surplus property for which the government paid $81,919,998 was donated to the states for free distribution among public health, educational and civil defense activities. Personal property accounted for $78,775,277 of the total. It consisted of supplies and equipment ranging from movie projectors to office furniture.

Every state and territory received some federal surplus. Greatest amounts went to California, $11,822,963; New York, $6,208,394; Illinois, $3,778,206; Texas, $3,703,455, and Missouri, $3,192,074.

$500,000 Loan Granted Tulsa Medical Center

Community Facilities Administration has approved a $500,000 loan to Hillcrest Medical Center, Inc., of Tulsa, Oklahoma. It will help to finance construction of a dormitory for 120 student nurses. The institution plans to double patient capacity in next 18 months and increase student nurse enrollment to 300 from the present 158.

PHS Reissues Book on Factory Health Plans

The Public Health Service has reissued its "Small Plant Health and Medical Programs." Originally published in 1952, this is a 213-page guide for employers, labor unions, professional groups and others having an interest in industrial medicine. Single copies may be obtained without charge upon request to Inquiries Branch, Public Health Service, Dept. of HEW, Washington 25, D. C.

License over 7,000 New Physicians in U. S.

For the fifth consecutive year, more than 7,000 new physicians entered the practice of medicine in the United States during 1957.

This was revealed in the 56th annual report of the American Medical Association's Council on Medical Education and Hospitals which appears in the May 31 Journal of the American Medical Association.

Of the 7,455 new doctors licensed to practice, 5,872 licenses were given as a result of written examination and 1,583 by interstate reciprocity or endorsement of credentials.

During the same period, 3,500 physician deaths were reported, which reduces the over-all gain in the doctor population to 3,955.

Anyone Going to Europe in July?

The AMA would like to have the names of members who are planning to be in Europe during the month of July. Reason: The Association wants one of its members to represent the AMA at the annual meeting of the British Medical Association during that month.

Education Getting Bulk of U. S. Surplus Items

Hospitals are running a poor second to educational institutions as recipients of supplies and equipment declared surplus by the federal government and issued to the states for free distribution among nonprofit, tax-exempt agencies. Up to this year, hospitals and public health institutions were receiving 20 percent of items distributed by the Department of HEW. For the first quarter of 1958 the percentage was still lower; $13.5 million worth of surplus in health and hospital category; $56.7 million to colleges, public schools, etc., and the remainder of about $8.5 million to civil defense units.

The main reasons for this imbalance, say HEW officials, are (1) a greater aggressiveness by educational leaders in the states toward procurement of government surplus, and (2) tendency of hospitals to be overly choosy (especially when surplus drugs are involved).

Medicare Stops Paying for Drugs to OB Cases

Effective July 1, the government's Medicare program will stop paying civilian doctors for medicinals furnished to their maternity patients. A directive issued last week by Major General Paul I. Robinson, executive director, ascribes cutback to criticism of present policy by many state medical associations and pharmacy profession. Action was taken on recommendation of Medicare's advisory committee.

The American Pharmaceutical Association had objected to the procedure whereby druggists billed physicians for prescription drugs dispensed to patients (then the physician would collect from Medicare). Medical criticism cited added paper work and consequent contraction of time available for professional service.

Doctors and druggists would have preferred, as a solution, introduction of a plan similar to "home town" drug

Continued on page 245

Program . . .

105th Annual Session

Maine Medical Association

Sunday - Monday - Tuesday

JUNE 22, 23, 24 — 1958

The Samoset, Rockland, Maine

Program Arranged by the Scientific Committee

Edward G. Asherman, M.D., Portland, *Chairman*

Richard H. Dennis, M.D., Waterville

Daniel R. Shields, M.D., Lewiston

Information

Registration:

Registration Headquarters throughout the session will be in the Lobby at The Samoset Hotel.
Sunday, June 22 - 9:00 A.M. to 5:30 P.M.
Monday, June 23 - 8:00 A.M. to 5:30 P.M.
Tuesday, June 24 - 8:00 A.M. to 5:30 P.M.

Visiting Delegates:

Introduction of Visiting Delegates will take place at the General Assembly, Monday afternoon, June 23 at 4:00 P.M.

Technical Exhibits:

A list of Exhibiting Companies and representatives is published in this issue of the Journal. It is hoped that the members of the Association will show their appreciation for the cooperation of these companies by visiting all of the exhibits.

Door Prize:

A door prize will be presented at the Clam Bake on Tuesday, June 24. Don't fail to get your ticket at the Association's Registration desk.

Sunday, June 22

10:00 A.M. First Meeting of the House of Delegates

12:30 P.M. Luncheon

2:00 P.M. Reference Committee Meetings

4:00 P.M. Second Meeting of the House of Delegates

6:30 P.M. Dinner

Speaker: WILLIAM H. GOVE, President, The Bill Gove Organization, St. Paul, Minnesota
Subject: **I'll Swap Ya!**

Monday, June 23

Scientific Session

9:30 A.M. **Urological Problems in General Practice**

GEORGE C. PRATHER, M.D., Brookline, Massachusetts

10:15 A.M. **Health Insurance Is Here To Stay**
(A discussion by experts from the Nation and State)

The Problems of Health Insurance from the M.D. Point of View
ALBERT ARANSON, M.D., Portland, Maine

The Health Insurance Story from the Insurance Industries Point of View
HAROLD J. WATERS, Research Consultant, John Hancock Mutual Life Insurance Company, Boston, Massachusetts

The "Blues"
LINUS J. STITHAM, M.D., Dover-Foxcroft, Maine

12:00 NOON **Visit the Technical Exhibits**

12:30 P.M. Luncheon

Scientific Session
Sponsored by the Maine Chapter of the American College of Surgeons

2:00 P.M. **Environmental Sepsis**

CARL W. WALTER, M.D., Associate Clinical Professor of Surgery, Harvard Medical School; Senior Associate Surgeon, Peter Bent Brigham Hospital, Boston, Massachusetts

3:00 P.M. **Staphylococcus Infection in Adults and Children**

LOUIS WEINSTEIN, M.D., Professor of Medicine, Tufts Medical School, Lecturer on Infectious Diseases, Harvard Medical School; Senior Physician of Medical Service and Chief of Infectious Diseases Service, New England Center Hospital, Boston, Massachusetts

General Assembly

4:00 P.M. Presiding, FRANCIS A. WINCHENBACH, M.D., President

Introduction of Out-of-State Delegates
Election of President-Elect

Presentation of awards for best Journal articles published during 1957-1958

5:00 P.M. **Visit the Technical Exhibits**

6:00 P.M. Cocktail Party (sponsored by Brunswick Publishing Company)

Annual Banquet

Presentation of pins to Honorary members

Speaker: HONORABLE FRANK M. COFFIN, Lewiston, Maine

Subject: **The Federal Government and Medical Care**

Tuesday, June 24

Scientific Program

9:30 A.M. **Malpractice — Liability Without Fault**
ROBERT W. O'CONNOR, Attorney, Augusta, Maine

HERBERT E. LOCKE, Attorney, Augusta, Maine will participate in the question and answer period following Mr. O'Connor's address

10:15 A.M. **Steroids and Contagious Diseases**
RICHARD CANNON ELEY, M.D.

Chief, Contagious Diseases Service, Children's Hospital, Boston, Massachusetts; Associate Clinical Professor of Pediatrics, Harvard Medical School.

11:00 A.M. **Maintaining Practice Momentum**
GEORGE W. CONDIT
Medical Management Consultant, New York City (Sponsored by the Wm. S. Merrell Company)

12:00 NOON **Visit the Technical Exhibits**

12:30 P.M. Luncheon

Scientific Program

Arranged by the Maine Medico-Legal Society

2:00 P.M. Remarks by the President, JOSEPH F. HOLMAN
Introduction of guests
Address by ALLAN L. ROBBINS, Warden, Maine State Prison
Subject: **Homosexuality**
Panel Discussion — **The Present Status of the Insanity Plea in Homicide Cases in Maine**
Moderator — Judge CHARLES A. POMEROY, Portland, Maine
Panel — A. WARREN STEARNS, M.D., Billerica, Massachusetts, nationally known psychiatrist
FRANK F. HARDING, Rockland, Maine, Attorney General, State of Maine
FRANCIS H. SLEEPER, M.D., Superintendent, Augusta State Hospital, Augusta, Maine
ARTHUR CHAPMAN, JR., Portland, Maine, County Attorney, Cumberland County

6:30 P.M. Clam Bake
Presentation of golf prizes

Specialty Group Meetings

Tuesday, June 24

10:00 A.M. Maine Medico-Legal Society Annual Meeting
Presiding—JOSEPH F. HOLMAN, President
Reports of officers
Election of officers
New Business
General Discussion

12:30 P.M. Luncheon Meeting
Maine Chapter, American Academy of General Practice

2:00 P.M. Maine Society of Obstetrics and Gynecology
Speaker: ARTHUR T. HERTIG, M.D., Harvard Medical School
Pediatric Group: Program sponsored by State Division of Maternal and Child Health
Speaker: RICHARD CANNON ELEY, M.D., Children's Medical Center, Boston
Maine Trauma Committee
Instructional Meeting for General Practitioners

3:00 P.M. Maine Society of Anesthesiologists

Special Notices

Golf Tournament

Francis A. Winchenbach, M.D., Bath, Chairman

Election of President-Elect

The election of a President-Elect will take place at the General Assembly, Monday, June 23 at 4:00 P.M.

Election of Councilors

Election of Councilors for the following Districts will take place at the Second Meeting of the House of Delegates on Sunday, June 22 at 4:00 P.M.
Fifth District — Hancock and Washington Counties
Sixth District — Aroostook, Penobscot and Piscataquis Counties

HONORARY MEDALS

Presentation of the Association's Honorary Pins will be made by Francis A. Winchenbach, M.D., President, at the Annual Banquet, Monday evening, June 23 at 6:30 P.M.

Fifty-Year Pins

Fifty-Year Lapel Pins will be presented to the following members who were graduated from Medical School in 1908:

Androscoggin County
Edson B. Buker, M.D., Auburn

Kennebec County
Roland L. McKay, M.D., Augusta
Roscoe L. Mitchell, M.D., Hallowell
Edmund P. Williams, M.D., Oakland

Oxford County
John A. Greene, M.D., Rumford

Penobscot County
Allan Craig, M.D., New York City

Somerset County
Henry E. Marston, M.D., North Anson

York County
Dana B. Mayo, M.D., Kennebunkport

Fifty-Five-Year Pins

Fifty-Five-Year Pins will be presented to the following members who received Fifty-Year Medals in 1953:

Aroostook County
Penry L. B. Ebbett, M.D., Houlton

Kennebec County
Charles E. G. Shannon, M.D., Waterville

Lincoln-Sagadahoc County
Warren E. Kershner, M.D., Bath

Oxford County
Henry Pearson, M.D., Brownfield

Sixty-Year Pins

Sixty-Year Pins will be presented to the following members who received their Fifty-Year Medals in 1948:

Knox County
Walter D. Hall, M.D., Rockland

Penobscot County
Watson S. Purinton, M.D., Bangor

COUNTY DELEGATES — 1958

FIRST DISTRICT

Cumberland County Medical Society

Delegates:
(2 years)
Albert Aranson, M.D., 39 Deering St., Portland
Robinson L. Bidwell, M.D., 31 Bramhall St., Portland
Charles R. Glassmire, M.D., 58 Deering St., Portland
Manu Chatterjee, M.D., 11 McKeen St., Brunswick
(1 year)
Joseph B. Barnhardt, M.D., 55 Stroudwater St., Westbrook
Philip S. Fogg, Jr., M.D., 27 Deering St., Portland
C. Philip Lape, M.D., 131 Chadwick St., Portland
Daniel P. Storer, M.D., 12 Deering St., Portland

Alternates:
(2 years)
Robert H. Pawle, M.D., Steep Falls
William F. Taylor, M.D., Providence Ave., Falmouth Foreside
Robert W. Agan, M.D., 144 State St., Portland
David K. Lovely, M.D., 46 Deering St., Portland
(1 year)
Louis Bachrach, M.D., 16 Union St., Brunswick
Lawrence Crane, M.D., 265 Western Promenade, Portland
Henry B. Finks, M.D., 73 Deering St., Portland
Laban W. Leiter, M.D., 175 Vaughan St., Portland

York County Medical Society

Delegates:
J. Robert Downing, M.D., 35 Summer St., Kennebunk
Roger J. P. Robert, M.D., 331 Main St., Saco
James H. Macdonald, M.D., 103 Main St., Kennebunk

Alternates:
Melvin Bacon, M.D., 257A Main St., Sanford
Leon R. Jellerson, M.D., Elm St., North Berwick
Robert F. Ficker, M.D., Maine St., Kennebunkport

SECOND DISTRICT

Androscoggin County Medical Society

Delegates:
Paul J. LaFlamme, M.D., 78 Pine St., Lewiston
Romeo A. Beliveau, M.D., 89 Pine St., Lewiston
Ralph A. Goodwin, Sr., M.D., 56 Denison St., Auburn

Alternates:
Wirt L. Davis, M.D., 91 Bartlett St., Lewiston
Vincent H. Beeaker, M.D., 85 Wood St., Lewiston
Ralph A. Zanca, M.D., 86 Pine St., Lewiston

Franklin County Medical Society

Delegate:
Philip B. Chase, M.D., 36 Main St., Farmington

Alternate:
Paul A. Fichtner, M.D., 6 Pleasant St., Rangeley

Oxford County Medical Society

Delegates:
(2 years)
Walter G. Dixon, M.D., 16 Deering St., Norway
(1 year)
Garfield G. Defoe, M.D., Dixfield

Alternates:
(2 years)
Linwood M. Rowe, M.D., 11 Franklin St., Rumford
(1 year)
Dexter E. Elsemore, M.D., 11 Main St., Dixfield

THIRD DISTRICT

Knox County Medical Society

Delegates:
Harry G. Tounge, Jr., M.D., 12 Union St., Camden
William A. McLellan, M.D., 87 Chestnut St., Camden

Alternates:
Hugo Hochschild, M.D., 33 Main St., Thomaston
Paul A. Jones, M.D., Union

Lincoln-Sagadahoc County Medical Society

Delegates:
John F. Dougherty, M.D., 112 Front St., Bath
John F. Andrews, M.D., 20 West St., Boothbay Harbor

Alternates:
Ralph C. Powell, M.D., Damariscotta
Edward L. Kinder, Jr., M.D., 1027 Washington St., Bath

FOURTH DISTRICT

Kennebec County Medical Society

Delegates:
Clarence R. McLaughlin, M.D., 345 Water St., Gardiner
Brinton T. Darlington, M.D., Westwood Road, Augusta
Oakley A. Melendy, M.D., 21 Western Ave., Augusta
Arthur H. McQuillan, M.D., 177 Main St., Waterville
George J. Robertson, M.D., 33 College Ave., Waterville

Alternates:
Richard N. Fallon, M.D., 21 Western Ave., Augusta
Hugh J. Mathews, Jr., M.D., 345 Water St., Gardiner
Vaughan R. Sturtevant, M.D., 33 College Ave., Waterville
James N. Shippee, M.D., 122 Main St., Winthrop
Richard L. Chasse, M.D., 173 Main St., Waterville

Somerset County Medical Society

Delegate:
George E. Sullivan, M.D., R.F.D. #1, Fairfield

Alternate:
Howard L. Reed, M.D., 68 Water St., Skowhegan

Waldo County Medical Society

Delegate:
George L. Temple, M.D., 18 Franklin St., Belfast

Alternate:
Ward A. Albro, M.D., 27 Northport Ave., Belfast

FIFTH DISTRICT

Hancock County Medical Society

Delegates:
James H. Crowe, M.D., 121 Main St., Ellsworth
Marcus A. Torrey, M.D., 75 State St., Ellsworth

Alternates:
Philip L. Gray, M.D., Blue Hill
Harry Kopfmann, M.D., Deer Isle

Washington County Medical Society

Delegate:
Perley J. Mundie, M.D., 111 Main St., Calais

Alternate:
James C. Bates, M.D., Eastport

SIXTH DISTRICT

Aroostook County Medical Society

Delegates:
Robert M. Gabrielson, M.D., 18 Sweden St., Caribou
Harry M. Helfrich, Jr., M.D., 555 Main St., Presque Isle
Robert A. Graves, M.D., 3 Green St., Fort Fairfield

Alternates:
Leland M. White, M.D., 11 Riverview Ave., Caribou
Philip Pines, M.D., Maine St., Limestone
Melvin R. Aungst, M.D., Morneault Bldg., Fort Kent

Penobscot County Medical Society

Delegates:
Nelson P. Blackburn, M.D., 489 State St., Bangor
Arthur N. Lieberman, M.D., 180 Broadway, Bangor
Leonard G. Miragliuolo, M.D., 10 Maple St., Bangor
Jay K. Osler, M.D., 74 Birch St., Bangor
Wilfred I. Butterfield, M.D., 119 Main St., Lincoln

Alternates:
Hans Weisz, M.D., 196 Main St., Lincoln
Eugene E. Brown, M.D., 276 State St., Bangor
Hans Shurman, M.D., 10 Spring St., Dexter
Donald E. Bridges, M.D., 263 State St., Bangor
John A. Woodcock, M.D., 35 Second St., Bangor

Piscataquis County Medical Society

Delegate:
Ralph C. Stuart, M.D., Guilford

Alternate:
Linus J. Stitham, M.D., 50 Main St., Dover-Foxcroft

Technical Exhibits

Abbott Laboratories, North Chicago, Illinois

The Alkalol Company, Taunton, Mass.
Representative, Mr. E. W. LeClair

American Ferment Co., Inc., 1450 Brodway, New York 18, N. Y.
Representative, Mr. G. H. Shaw

Ames Company, Inc., Elkhart, Indiana
Representative, Mr. Gabriel Peluso

Anderson & Briggs, Inc., 24 Court St., Auburn, Maine
Representative, Mr. Linwood C. Bubier

Ayerst Laboratories, 340 Hudson St., Hackensack, New Jersey
Representative, Mr. Edward C. McMahon

The Baker Laboratories, Inc., 4614 Prospect Ave., Cleveland 3, Ohio
Representative, Mr. H. W. Baker, Jr.

Elmer N. Blackwell, Surgical Appliance Specialist, 207 Strand Bldg., Portland, Maine
Representatives, Mr. Elmer N. Blackwell, Mr. Oakley R. Sanborn

The Borden Company, 350 Madison Ave., New York 17, N. Y.
Representatives, Mr. J. R. Galvin, Mr. J. Ago, Mr. J. Noonan

Brewer & Company, Inc., 67 Union St., Worcester 8, Mass.
Representatives, Mr. Sidney L. Segel, Mr. Walter Spaulding

Buffington's Inc., Worcester 8, Mass.
Representative, Mr. C. W. Rich

Burroughs Wellcome & Co. (U.S.A.) Inc., 1 Scarsdale Rd., Tuckahoe, New York
Representatives, Mr. C. D. Weed, Mr. R. L. McQuillan

Carnation Company, Carnation Bldg., Los Angeles 36, California

Ciba Pharmaceutical Products Inc., Summit, New Jersey
Representatives, Mr. C. W. Leighton, Mr. H. W. Hackett

The Coca-Cola Company, P.O. Drawer 1734, Atlanta 1, Georgia

Eaton Laboratories, Norwich, New York
Representatives, Mr. A. T. Snyder, Mr. F. N. Oliver

C. B. Fleet Co., Inc., 921-927 Commerce St., Lynchburg, Virginia
Representative, Mr. Frederick T. Keylor

Geo. C. Frye Co., 116 Free St., Portland, Maine
Representatives, Mr. Milton S. Kimball, Mr. John F. Kimball, Mr. Hubert A. Honan, Mr. Millard C. Webber, Jr., Mr. Irving F. Beers

Geigy Pharmaceuticals, P.O. Box 430, Yonkers, New York
Representatives, Mr. Herbert L. Kern, Mr. Thomas L. Cowan

Lederle Laboratories Division, American Cyanamid Company, Pearl River, New York
Representative, Mr. Rocco Maffei

Eli Lilly and Company, Indianapolis 6, Indiana
Representatives, Mr. W. W. Tulloch, Mr. E. C. Webber

E. F. Mahady Company, 225 Monsignor O'Brien Highway, Cambridge 41, Mass.
Representatives, Mr. Paul Joyce, Mr. Charles G. Perkins

Maine Surgical Supply Company, 233 Vaughan St., Portland, Maine
Representatives, Mr. Phil Richmond, Mr. Robert Axelsen, Mr. John H. Lacy

The S. E. Massengill Company, Bristol, Tennessee
Representatives, Mr. R. F. Blais, Mr. L. A. Larivee, Mr. L. C. Miller

The Wm. S. Merrell Company, Cincinnati 15, Ohio
Representatives, Mr. Joseph F. Crozier, Mr. Kenneth W. McConnell

The P. J. Noyes Company, Lancaster, New Hampshire
Representatives, Mr. Vernon L. Keene, Mr. Michael B. Salvetti

Parke, Davis & Company, Detroit 32, Michigan
Representatives, Mr. Walter Nikitin, Mr. Merrill F. Dole

Pfizer Laboratories, 630 Flushing Ave., Brooklyn 6, New York
Representatives, Mr. F. Howard Stimets, Mr. Leonard Robinson, Mr. Wallace Houston

A. H. Robins Company, Inc., 1407 Cummings Drive, Richmond 20, Virginia
Representatives, Mr. G. W. Wagner, Mr. H. H. Durrance

Roche Laboratories, Nutley 10, New Jersey
Representative, Mr. Paul J. Kenaley

J. B. Roerig and Company, 536 Lake Shore Drive, Chicago, Illinois
Representatives, Mr. Clarence J. Johnson, Mr. Richard Cunningham

Ross Laboratories, Columbus 16, Ohio
Representatives, Mr. Richard Kaufman, Mr. Harold Hutchinson

Sandoz Pharmaceuticals, Hanover, New Jersey
Representative, Mr. Carrol Hayward

W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa.
Representative, Mr. Joseph Juneman

Schering Corporation, Bloomfield, New Jersey
Representatives, Mr. Jack Arlaud, Mr. Floyd Selby

G. D. Searle & Company, P.O. Box 5110, Chicago 80, Illinois
Representatives, Mr. H. J. Warnecke, Mr. J. J. Pash, Mr. A. L. Grimes

E. R. Squibb & Sons, 745 Fifth Ave., New York 22, N. Y.

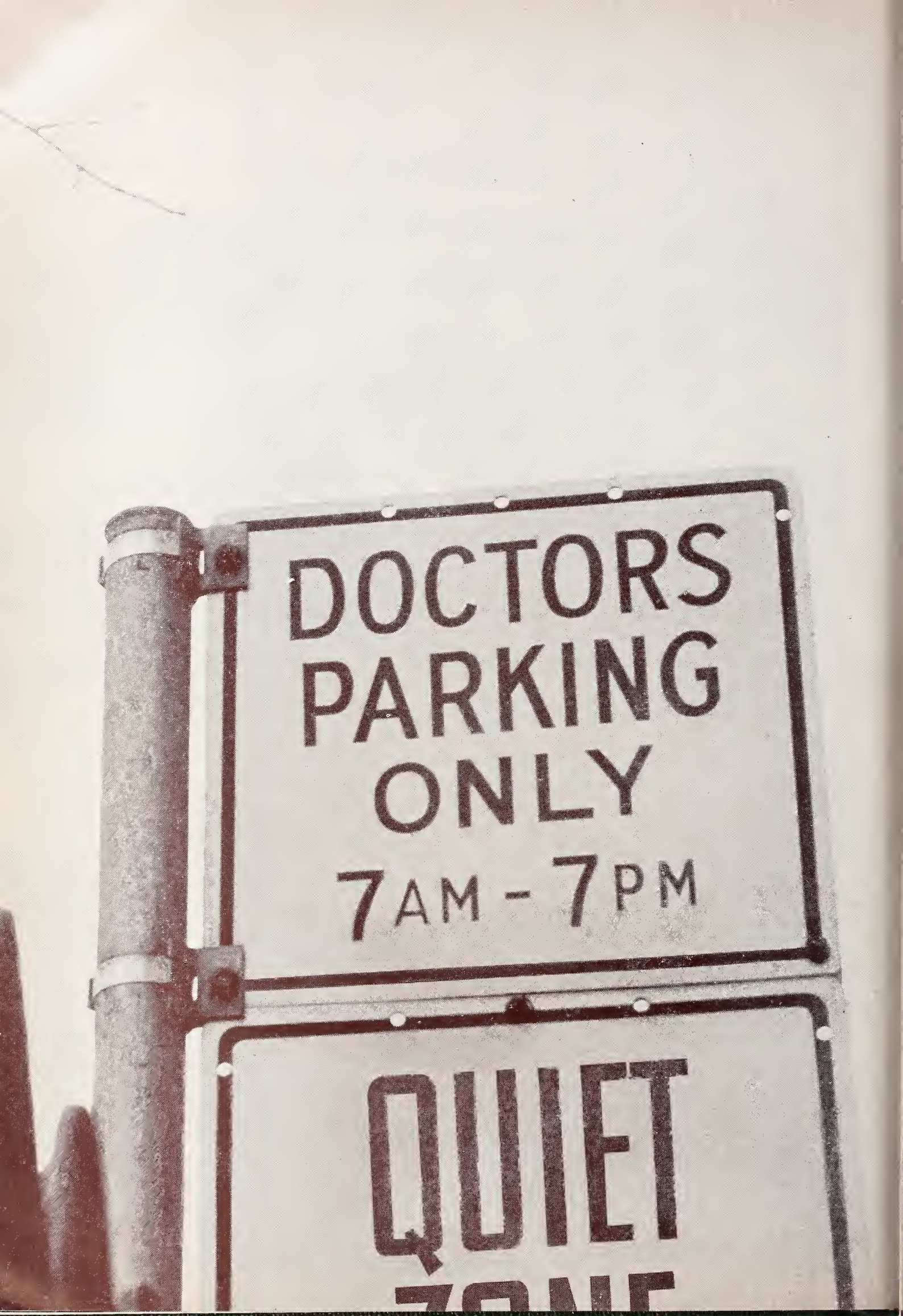
Surgeons' and Physicians' Supply Co., 961 Commonwealth Ave., Boston 15, Mass.
Representative, Mr. Charles H. Joy

The Upjohn Company, 17 Deerfield St., Boston 15, Mass.
Representatives, Mr. R. D. Beverly, Mr. W. A. Kayatta, Mr. R. A. Clemons, Mr. Frank Nugent

U. S. Vitamin Corporation, 250 East 43rd St., New York 17, N. Y.
Representatives, Mr. William G. Moran, Jr., Mr. John R. Winfield

Warner-Chilcott Laboratories, Morris Plains, New Jersey
Representatives, Mr. William Comyns, Mr. Robert Ewing

Winthrop Laboratories, 1450 Broadway, New York 18, N. Y.
Representatives, Mr. Robert W. Blanchard, Mr. E. F. Kittredge


DOCTORS
PARKING
ONLY
7AM - 7PM
QUIET



ACHROMYCIN® V

Tetracycline and Citric Acid Lederle

A Decision of Physicians

When it comes to prescribing broad-spectrum antibiotics, physicians today most frequently specify ACHROMYCIN V.

The reason for this decided preference is simple.

For more than four years now, you and your colleagues have had many opportunities to observe and confirm the clinical efficacy of ACHROMYCIN tetracycline and, more recently, ACHROMYCIN V tetracycline and citric acid.

In patient after patient, in diseases caused by many invading organisms, ACHROMYCIN achieves prompt control of the infection—and with few significant side effects.

The next time your diagnosis calls for rapid antibiotic action, rely on ACHROMYCIN V—the choice of physicians in every field and specialty.

Lederle

LEDERLE LABORATORIES
a Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

Committee Reports — 1957-58

STANDING

Public Relations Committee

The Public Relations Committee met this year at the Eastern Maine General Hospital in Bangor, on April 15. In lieu of other meetings, your chairman attended the 1957 Public Relations Institute in Chicago on August 28 and 29. Almost 500 persons from all sections of the country were registered at this meeting — an indication of the increasing and widespread interest in the important field of public relations. It was the decision of this committee that notes taken at the Chicago Institute be made available to members of the Maine Medical Association through this report.

These notes are presented in the same sequence in which the discussions came up in the meetings. They may appear somewhat repetitive but the repetition will serve to show where the emphasis was placed.

Representatives of the Association of Science Writers were among the main speakers. The Medical Editor of Look Magazine proved to be popular in speaking of some of the problems encountered in covering medical stories. Other members of the working press were also among the speakers.

Individual public relations problem-solving sessions were held. The problems concerned the large state societies having four or more A.M.A. delegates, smaller state societies and county societies with and without executive secretaries.

Sessions were held on grievance committees. It was the consensus of opinion that grievance committees are very important as a protection to the doctor as well as to the patient.

A session was held on "The Legislative Scene." Doctors are encouraged to go into politics and to take an active part in the political life of their local and state governments.

On fostering better doctor-lawyer cooperation, it was suggested that when and wherever possible a healthy relationship between these two professions be encouraged and maintained.

It was the general feeling that the public relations problems across the country were no different in any particular section and that they all funnelled down to the county level. Any code of ethics should be general and where a specific interpretation is required, it should come at the county level.

An entire morning was devoted to relationships with the press and some of the conclusions reached were as follows:

1. Frequent meetings with reporters should be held in order to establish a good rapport between the medical profession and the press.
2. A doctor's name *should* be used in newsworthy stories.
3. It is not essential to use a doctor's name when a *group* of doctors are involved except in exceptional circumstances such as a special team for a particular technique.
4. News stories should be cleared through the Public Relations Committee. This would tend to keep any possible "publicity hounds" in line.
5. Publicity is not to be construed with public relations.
6. Many societies make it a policy to invite members of the press to their meetings. In so doing, they find that their meetings are better prepared and better executed.

It was interesting to note the progress in public relations in two states in particular:

The Kansas State Medical Society has been very active and progressive in their public relations program for some years. A recent survey conducted by them revealed the following:

1. Paid advertising is not advantageous.
2. People are critical of having to wait too long in reception rooms.
3. Receptionists are often too impersonal and unconcerned about the patient's problem.
4. Bills should be itemized.
5. Doctors do not take time to explain things to their patients (including fees).
6. Some doctors are arrogant.
7. People have a very high regard for their own doctor but not necessarily for the profession as a whole.

It was pointed out that the Woman's Auxiliary is a great help to their public relations program as is the League of Women Voters, Today's Health Magazine, and P.T.A.'s.

In Iowa, another very active and progressive group, there is a five-year program of public relations. The Medical Association has concentrated on legislative matters. A legislative contact man is appointed by the president of the Association. The chairman of the auxiliary meets regularly with the legislative committee. A special committee works on the problem of chiropractors and any other related groups trying to expand into the field of medicine. Dinner meetings are held with doctors, legislators, and auxiliary members. A delegation goes to Washington each year for the purpose of lobbying.

It was suggested in one of the meetings that:

1. In planning larger meetings such as annual or semi-annual meetings, a preliminary agenda of the meetings should be given to reporters one month or well in advance of the meetings.
2. Speakers should present papers in advance.
3. The press should be provided with press room well serviced (plus plenty of coffee).
4. A quiet area should be available for interviews.
5. It is also a good plan to give the reporters a personal introduction at the meeting as well as to invite them to the social functions.
6. A liaison officer should be appointed to assist the press in meetings.
7. T.V. programs should be prepared well in advance in cooperation with the medical society and the press.

In relation to the above notes and subsequent discussions in committee, the Public Relations Committee would like to make the following recommendations:

1. That a grievance committee be formed in each county.
2. That the legislative committee study the possibility of a medical doctor being appointed to the Governor's Council and encourage doctors to enter active politics.
3. That a committee be formed consisting of all the past presidents of the Maine Medical Association for the purpose of acting in an advisory capacity only to the betterment of the association and its activities.

4. That the Maine Medical Association sanction the use of individual doctor's names in news items and stories particularly with reference to publicity which would disseminate public information in the field of medical care and medical science. It is further recommended that wherever feasible, the name of the county or state medical society and the hospital affiliation be included rather than any particular specialty. By so doing, the committee feels that confusion with other types of "doctors" would be eliminated.

Robert J. Barrett, Jr., M.D.
Paul E. Floyd, M.D.
Harry M. Helfrich, Jr., M.D.
Roger J. P. Robert, M.D.
Donald F. Marshall, M.D., *Chairman*

Health Insurance Committee

The Health Insurance Committee has met four times during this past year. Most of its work has been concerned with the new BSC contract for Blue Shield, the so-called "preferred plan." This program went into effect the first of the year with a few pilot groups, covering approximately five thousand people. The Associated Hospital Service reports that the plan has been accepted favorably and as soon as actuarial experience is obtained, presumably the policy will be available to many more such groups.

With the exception of one area in the State, the program has been well received by the medical profession. In Portland there have been some fifteen resignations from the plan and it is estimated that there will be eight or ten more such resignations by June.

As this is my final report as Chairman of this committee, I would crave your indulgence in order to make a few personal remarks regarding health insurance in general. I have expressed many of these same thoughts in previous reports, unfortunately only to have them fall on deaf ears.

The growth of health insurance over the past ten or fifteen years has been so phenomenal as to be almost unbelievable. Membership in all plans now covers over 42,000,000 people. The amount of money paid to physicians last year was over $500,000,000. It should be evident to even the most conservative physician in his ivory tower, that the people of this country have accepted the principle of pre-paid medical care. It would further seem obvious that our people are going to obtain medical care by either voluntary contributions or by a government program. No longer can we consider Blue Shield simply a stop-gap measure in order to defeat socialized medicine. Prepayment is now a permanent part of the economy of this country and we would do well to realize this — as medicine can never be in conflict with that which is in the public interest.

It is indeed unfortunate that all too many physicians consider Blue Shield to be simply a pool of contributed moneys which are merely a partial guarantee of their fees. Such an attitude can only further lower the already diminished respect of the public for our profession. While it is perfectly natural that any group of men should disagree as to the methods of attaining a particular goal, it is certainly of prime importance that a group such as the doctors of Maine should at least have the same goal.

Each of us has read a great deal in the past regarding the "poor public relations of physicians." Public relations, is at best a nebulous term. However, in reference to medicine, it may be readily defined as the physician's own attitude and relationship toward his patients. Public relations, in this sense, cannot be purchased from any high pressure group of publicists, it must be earned by each individual physician. Of primary importance to all patients is how they are going to pay their medical bills. Blue Cross and Blue Shield have demonstrated beyond a shadow of doubt, in my own mind at least, that it is by far the best vehicle for such payment.

If you accept the foregoing, then the attitude of some segments of our profession, nation-wide and here in Maine, can only cause a great deal of concern on the part of thinking doctors. Most doctors, at least in theory, are sympathetic with the Blue Shield philosophy. Today this is no longer sufficient. They must assume a greater interest and responsibility in their own Blue Shield plans in order to best serve the reasonable requirements of the public.

Linus J. Stitham, M.D., *Chairman*

Board of Ethics and Discipline

The Board has had two written complaints brought to its attention. Both were reviewed by all members of the board. A letter of opinion sent to each of the complainants has not brought further request for action and both situations are now considered closed.

An anonymous letter concerning a member was forwarded to him — no comment made or received.

Alvin A. Morrison, M.D., *Chairman*

SPECIAL

Committee on Conservation of Vision

The Committee wishes to bring to the attention of the medical profession in Maine that referrals to optometrists by M.D.'s would not be to the best interest of patients for the following reasons:

1. Such referral would engender false confidence that an optometrist is an ophthalmic consultant.
2. Diagnosis of a disease condition may be attempted by the optometrist, and this could be harmful because

the optometrist cannot properly take responsibility for a medical or surgical situation, and the value of a diagnosis is directly in relation to its leading to the correct treatment or prognosis.

3. Some optometrists will actually presume responsibility for a medical situation in that upon recognizing a retinopathy or other eye pathology will refer the patient directly to a physician for a general medical consultation, or to a dentist for a dental consultation, thus giving the patient the impression that the optometrist involved is a qualified ophthalmic consultant — the patient being that much further from a competent ophthalmic consultation.
4. Some optometrists will recommend treatment, and a few, contrary to the edicts of the State Board of Optometry, have on occasion even prescribed or dispensed medication.
5. Some optometrists aspire to ophthalmic medical and surgical practice — which actually would make them ophthalmologists without the training of ophthalmologists. In fact, in a number of states optometrists have introduced legislation which would forbid physicians in engaging in refraction[1]. Within the past year a Maine optometrist has published his view[2]: "The professional optometrist would require little more training in medicine to become thoroughly capable to treat the superficial diseases of the eye, administer mydriatics for the more thorough examination of the inner globe and administer anaesthetics for measurement of intra-ocular tension and the removal of superficial foreign bodies."

The Committee recognizes and appreciates the following:

1. That optometrists serve a distinct need in the communities throughout the State as limited practitioners with their work being in the field of refraction and the prescription and fitting of spectacles. They are respected and valued for filling this need.
2. That many optometrists recognize eye pathology and conscientiously refer cases with eye pathology to ophthalmologists.
3. That, on the whole, the relationship between optometrists and ophthalmologists in Maine has been a co-operative and constructive one.
4. Indeed, that a good rapport between optometrists and ophthalmologists is needed for the timely treatment of eye diseases and for the conservation of vision obtained thereby.

However, in order to avoid the implications listed in the first part of this report, of referrals to optometrists, patients who desire examination by optometrists should arrange for such on their own responsibility.

In consideration of the welfare of patients and the protection of the public the Committee further wishes to bring to the attention of physicians throughout the State the booklet published by the National Medical Foundation for Eye Care, "Medicine, Optometry, and The Public Welfare"[1], setting forth on the basis of factual material the unwarranted impression on the part of many optometrists of competence for extending their practice into the field of ophthalmic medicine and surgery and the actual attempts by important groups of optometrists to legally extend their practice into the field of ophthalmic medicine and surgery despite their inadequate training.

Paul E. Floyd, M.D.
Howard F. Hill, M.D.
Paul Maier, M.D.
O. B. Tibbetts, M.D.
Ralph A. Goodwin, Jr., M.D.
Dexter J. Clough, 2nd, M.D., *Chairman*

REFERENCES

1. Medicine, Optometry, and The Public Welfare, page 29, issued by the National Medical Foundation for Eye Care, 250 West 57th St., New York 19, New York (a copy of this booklet may be obtained from the National Medical Foundation for Eye Care or from any of the members of this Committee.)
2. Corriveau, A. L., Long-term planning in optometry interprofessional relations. New Jersey Journal of Optometry, November, 1957.

Committee on Arthritis

The Committee on Arthritis has not formally met during the year to discuss any problems relating to the Arthritic patient in Maine.

In July, 1957 those physicians particularly interested in arthritis had an all day scientific session at Togus. Evans Calkins, M.D., of Boston was the speaker. He discussed many interesting and difficult Arthritic problems presented to him by the Arthritic Service at Togus and other Arthritic clinics in the State. We were most grateful to the staff and the Veterans Administration for providing us with this opportunity.

In October, Maine was host at the Bethel Inn to the New England Society of Rheumatism at its annual fall session. William Clark, M.D., presented an excellent paper on "Serological Tests for the Diagnosis of Rheumatoid Arthritis."

During 1957, Brinton T. Darlington, M.D. of Augusta and Allan J. Stinchfield, M.D. of Hallowell, began an Arthritic Clinic at the Augusta General Hospital. This clinic meets regularly and is the fourth such clinic to be in operation in Maine.

The Pine Tree Arthritis and Rheumatism Foundation has continued to be active in the Greater Portland area. It received $7,000; the majority of its funds — $6,000 — by its affiliation with the United Fund of Portland. Funds received outside the United Fund, mostly from the Portland area, were $200 plus $650 from federal employees. The Foundation has a part-time Executive Director, Mr. Barent S. Vroman, and its office is located at 65 India Street, Portland.

Several projects of the Pine Tree Arthritis and Rheumatism Foundation are worthy of mention. In November, 1957 a registration of Arthritic Patients in Maine was made through the local drug stores throughout the State. It is estimated that approximately 10% of arthritic sufferers register during such a survey. The registration was as follows: 885 males and 2,480 females; of the men registered 436 were found to be working. Ninety-nine of the total were bed or chair-ridden; 226 were under the age of 40 and 1,399 over the age of 60; 50% were under the care of a physician. If these figures are multipled by 10, a fair approximation of the number of arthritic people can be obtained.

In addition, "The Bulletin of Rheumatic Disease" was sent to about 250 practicing physicians in the State. This Bulletin is to be sent regularly to those physicians who have a large number of patients with rheumatic disease.

A film on "Physiotherapy for the Arthritic Patient" is being made to assist in the instruction of District and Public Health Nurses in the Home Care of Arthritic Patients. These were

among several projects undertaken by the Pine Tree Arthritis and Rheumatism Foundation during the past year.

It is hoped that more lay participation and interest will be extended in our work throughout the year. So far the Portland area has carried on this work almost singlehandedly.

The chief need at present is more funds to operate a "Mobile Treatment and Diagnostic Unit" so that the work of the organization can be extended outside the hospital and urban areas.

Allan J. Stinchfield, M.D.
Robert O. Kellogg, M.D.
Robert A. Frost, M.D.
Philip P. Thompson, Jr., M.D., *Chairman*

Amy W. Pinkham Fund Committee

Report on Amy W. Pinkham Program, April 1, 1957 — March 30, 1958.

Due to the enactment of the Sinclair Bill by the last Legislature and through the various uncertainties that had arisen from that legislation and which continued through the special session last January, the development of school hot lunch programs throughout the State this past year was slowed down. The reason for this was largely due to the fact that with final approval and implementation of the Sinclair Bill much consolidation of schools throughout the State is anticipated. Therefore, both those responsible for the development of school hot lunch programs as well as the people administering the Amy W. Pinkham program, have delayed initiating any new action. This situation will probably continue until such time as the various school unions and administrators concerned are able to more or less determine the direction in which school consolidation or new school construction will take in the future in their respective areas.

However, since the last report which covered the year ending March 30, 1957 two additional Amy W. Pinkham Fund grants have been processed and the installations completed. These are:

1. Seventeen dozen compartment plates and seventeen dozen bowls (the plastic type manufactured by the Keyes Fibre Company) were provided to the Frenchville School in Aroostook County. Up until this time the hot lunch program in this school was using borrowed china from a local church and the china had been found to be in relatively poor condition. This grant was completed on May 8, 1957. The cost from the Pinkham funds was $220.52.
2. A refrigeration unit was purchased to be used in the hot lunch program of the James H. Bean School in Sidney, Kennebec County. This grant was completed on November 12, 1957. The cost of this unit from the Pinkham funds was $250.00.

As of the present time there are no grants pending. However, as implied in the foregoing, it is anticipated that plans for new hot lunch programs will soon be started in many areas of the State and that there will be ample opportunity in the future to make constructive use of the Amy W. Pinkham funds in helping to encourage the initiation of new programs or to help improve the excellence of sub-standard programs already in existence.

The financial report of the year's operation is as follows:

Funds on hand, April 1, 1957	$ 919.84
Interest on Principal, less bank charges $26.26	498.74
Total available for projects	1,418.58
Total expended, April-March	470.52
Balance of Fund, March 31, 1958	$ 948.06

Norman H. Nickerson, M.D., *Chairman*

Diabetes Committee

The Diabetes Detection Week held in November was very successful. There was considerable activity in this State prior to and during Diabetes Detection Week. This included Newspaper, Radio and Television announcements. In September there was a combined meeting at the State Capital of the County Chairmen of the Diabetes Committee of the State Medical Society and the State Pharmaceutical Society. Eight of the State Medical Chairmen and all of the Pharmaceutical Chairmen were present. The Pharmacists agreed to and did assist in helping us carry out our successful program. In many areas pharmacies acted as collecting stations from which the specimens were taken by some member of the Pharmacy to either the hospital or to the physician's office for examination, the reports of which were sent to the family physician.

During Diabetes Detection Week there were two all-day sessions on Diabetes, one in Portland and one in Bangor, which were co-sponsored by the State Medical Society and the Maine Public Health Association. Representatives of the Medical Profession, Nursing Profession and Public Health Association were on the program. These programs were put on for the Maine Public Health Nursing Association and the local nurses. Both days were well attended and received much favorable comment. It is hoped that it will be repeated in another year.

The number of specimens examined greatly exceeded those of last year, the total number being 18,279 with 141 positive urines. As near as could be ascertained from the reports submitted from the various areas, it was assumed that this number, 141, represented the number of new cases discovered. The blood sugar in fourteen instances was high enough to make a diagnosis of diabetes, but in only one area were blood sugar determinations carried out on positive urine reactors.

Your committee wishes to thank the representatives of the State and County Medical Societies who gave so freely of their time. Unless one has been actively connected with a Diabetes Detection Drive, little is known of the actual amount of work involved preparing for a drive, carrying it out and then finally tabulating the reports, and with the exception of one or two areas in Maine, this is all done without any financial backing. A final breakdown of the number examined from different sources is as follows:

Private Physicians	3,033
Detection Centers	2,083
Collection Centers	1,544
Hospitals or Clinics	319
Industry	8,995
Schools	1,205
Others (not specified)	1,100
	18,279

E. R. Blaisdell, M.D., *Chairman*

Maine Committee, American Medical Education Foundation

On January 25 and 26, 1958 the Seventh Annual State Chairmen's Meeting was held at the Drake Hotel in Chicago. Representatives from 39 states attended. Many favorable comments have been received testifying to the success of the conference.

George F. Lull, M.D., President of the Foundation, welcomed the guests. Ward Darley, M.D., Executive Director of the Association of American Medical Colleges, spoke on the financial requirements of the medical schools, and Mrs. Paul C. Craig, President of the Woman's Auxiliary to the A.M.A. spoke on the part Auxiliaries are taking in supplementing their doctor husbands' gifts to A.M.E.F. "The Hippocratic Ideal," an address by Edwin S. Hamilton, M.D., Chairman of the Board of Trustees of the A.M.A. stressed giving to A.M.E.F. *before* giving to all the other health agencies that ask for our dollars every day.

Mr. John W. Hedback, Executive Secretary of A.M.E.F., gave the official announcement of the Foundation's progress in 1957, and Edward L. Turner, M.D., Secretary of the Council on Medical Education, brought before the Chairmen and guests the newest statistics on medical education in the United States.

Unique A.M.E.F. state plans were discussed in a panel symposium, highlighting A.M.E.F. programs in New Mexico, Texas, South Carolina, Indiana and Minnesota. The Georgetown University's program of coordination with A.M.E.F. was discussed.

Sectional discussions on state committee organization, materials and mailings from the state office, the development of local and metropolitan campaigns, special gift programs and dues increases for A.M.E.F. were carried on by the Chairmen.

Mr. David M. Church, Executive Director of the American Association of Fund-Raising Counsel, guest speaker for the conference, set down basic, successful fund-raising rules and offered practical advice to the State Chairmen for their work in the year ahead.

Thomas F. Fay, M.D., *Chairman*

Committee on Mental Health

The committee met on April 5, 1958 to discuss several matters of interest. All members were present.

Important developments in the field of mental health in the past year deserve mention and should be noted by members of the Association. Two new mental health clinics have recently been formed by the State and are in operation at Lewiston and Bangor.

There has been a reorganization of the State Mental Health Association with participation by the four local mental health associations. A new State Society for Group Psychotherapy is being affiliated with the American Group Psychotherapy Association.

The committee felt that particular attention should be directed toward the favorable legislation in the last session regarding improvement of institutional facilities for the mentally ill of the State of Maine.

With increasing activity and interest of the lay public in the field of mental health, the committee expressed favor with any effort to implement existing services or to create new ones. The work of the Governor's Committee on Mental Health was discussed. This committee, authorized by the last legislature to study the problems of the mentally ill in the State of Maine, does not have a physician member. It was felt that the medical profession should be a part of this effort. Dr. Nicholas Fish offered to attend an open meeting of this committee to be held at Augusta in May, 1958.

As chairman of this committee, I attended the Fourth Annual Conference of Mental Health Representatives of the State Medical Associations, sponsored by the American Medical Association Council on Mental Health, November 22, 23, 1957. Group discussions were held on the following topics:

1. Role of the General Practitioner in Relation to the Specific Psychiatric Case.
2. Blue Cross-Blue Shield and other Voluntary Insurance Plans for the Psychiatric Patient.
3. Relationship of the Psychiatrist in Private Practice to the General Hospital in his Community.
4. Psychiatric and Related Mental Health Problems in Industry.

The reports of this meeting are being circularized through the members of this committee. They will be available to those with particular interest in this field.

Edmund N. Ervin, M.D., *Chairman*

School Health Committee

The activities of the Maine Medical Association School Health Committee were initiated at the Planning Meeting of the District I Health Conference held in Portland, January 10, 1957. Mr. Quentin Unger, Director of Health and Physical Education in the State Department of Education appointed Doctors Norman Dyhrberg of Westbrook and Robert Ficker of Kennebunkport to serve on a committee, whose function was to evaluate criteria for improvement in school health programs. This so-called "Work Committee" met in Portland five times between January 23 and May 8, 1957. The concrete result of these meetings, in so far as Doctors Dyhrberg and Ficker were concerned, was a Suggested Minimum Standard Procedure for School Health Examinations submitted by us to the Work Committee and in June, 1957 to the annual session of the Maine Medical Association. The proposal was favorably received and referred to the Committee on Maternal and Child Welfare for study. At last report, we were told that this Minimum Standard Procedure was approved by the Maine Medical Association and had also been approved by the Maine Osteopathic Association. It is expected that this recommendation which follows will be given to all school physicians for use by next Fall.

Minimum Standard Procedure For Public School Health Examination of Pupils

I. Previous Health History

A full history of all illnesses, operations and immunizations on each pupil from birth to school en-

trance — should be obtained from parent(s) to be included as part of the permanent School Health Record. Information on such illnesses as Rheumatic Fever, Diphtheria, German Measles, Scarlet Fever is especially to be sought in respect to the above.

II. PHYSICAL EXAMINATION

Physical examination shall include (in addition to general inspection of the pupil, i.e., skin, hygiene, gross skeletal abnormalities) the following:

a. Eyes, ears, nose, throat
b. Teeth and gums
c. Neck (thyroid, lymph glands)
d. Heart, including taking of blood pressure in High School health examinations.
e. Lungs (patch test and, if positive, chest x-ray)
f. Abdomen
g. Hernia
h. Genitalia, in males
i. Lower extremities — legs, joints, feet, arches

III. LABORATORY TESTS

Urine, for presence of sugar, albumin

Hemoglobin — provided physician has adequate assistance for such. This need not necessarily be performed by the examining physician.

IV. FREQUENCY

Four times during the school life of the pupil (presumably a 12-year period.)

Note: Girls, over the age of ten, should be provided slip-on capes for health examinations.

At the request of Dr. Hanley, I attended the Sixth National Conference on Physicians and Schools sponsored by the A.M.A. at Highland Park, Illinois, October 30 to November 1, 1957. The theme of the meeting was "Youth Fitness and How It Can Be Achieved." About 225 physicians, educators and public health workers were present. General talks were given by numerous outstanding people, i.e., several A.M.A. officials, Shane MacCarthy, Director of President Eisenhower's Council of Youth Fitness; Dean Schweickhard, Head of the National Council of Chief State School Officers, and others. Fitness was described as "a compound of mental, emotional, social, spiritual and physical elements." It was strongly emphasized that school health is the concern of *everyone,* parents, educators, doctors and the entire public, but that the public *looks to the doctor* for guidance in all health matters. It is felt, therefore, that it is up to the physician, with the help of all members of the health team, to meet community needs with an intelligently planned health program. In order to implement this and co-ordinate school health activities on municipal, county and state levels, there should be specific School Health Committees. The Conference has issued a statement on the subject as follows:

"Primary general functions of a medical society school health committee are (a) to stimulate cooperation by individual physicians in the school health program; (b) to keep the profession informed on school health problems; (c) to encourage sanction by the medical profession" . . . "specifically, the committee should assist in establishing sound policies and procedures and guiding the development of the medical aspects of the school health program." The idea seems to be to pull together the work done now and in the past under other names, i.e., Maternal & Child Health, Conservation of Vision, Diabetes, Mental Health, etc.

In a national survey report on School Health Activities of State Medical Associations published for Conference information late in 1957, there is a sentence from the report on the Maine Medical Association which sets forth our position as of then, I quote "At the present time there is no interagency committee or comparable body concerned with school health."

While the three or four general sessions of the Conference were all interesting and valuable, more specific contributions could be made only by breaking this large group of people down into smaller groups for limited-subject discussion. The subjects discussed by the ten smaller groups were:

The Physician and Youth Fitness: Community Coordination for Youth Fitness: Mental-Emotional Aspects of Fitness: Dramatizing Basic Fitness Procedures: Medical Guidance in Girls' Physical Recreation Activities: Special Health Problems in Athletics: Fitness of School Personnel: Optimum Fitness for Youth with Special Health Problems: Accident Prevention and Youth Fitness, and Food Factors in Fitness.

Each participant in these groups stayed with the same group throughout the three days of the Conference. Your representative stayed with the group discussing "Mental-Emotional Aspects of Fitness." Out of the maze of about thirteen hours of concentrated discussion covering many aspects of mental-emotional health, the group finally boiled everything down to a list of everyday experiences which constitute stresses and strains in children. It was felt that a continuing consideration of these by the classroom teacher would be of great help in evaluating the mental and emotional status of her pupils. The list includes:

1. School Entrance
2. Leaving Home for the First Time
3. Parent-Child Relations
4. Teacher-Child Relations
5. Peer Relations
6. Getting Hurt in Play
7. Failure to be Chosen for a Team or Group

These experiences need to be anticipated, understood, and guided wisely so that gradually the child will be enabled to meet later experiences of strain and stress which are a measure of fitness.

The group also agreed that if emotional needs of pupils are to be met, the school organization including the curriculum should be planned to permit the development of healthy ways of satisfying emotional needs. More detailed reports of the nine other groups and on the Conference as a whole will be available later in a bound volume issued by A.M.A.'s Bureau of Health Education. It is my hope that the personal stimulation as well as the objective gain in fact and methods of approach to School Health problems resulting from the Conference will be of real help in our work in Maine.

Robert F. Ficker, M.D., *Chairman*

DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Reporting and Nomenclature of Clinical Poliomyelitis

The difficulty encountered in diagnosing the "aseptic meningitis syndrome," often reported as "non-paralytic poliomyelitis," has led to confusion in the past and has undoubtedly produced distorted morbidity reporting.

Suggestions for a change in nomenclature, more consistent with information now available as to etiology of the "aseptic meningitis syndrome," are embodied in the following article, quoted from a recent *Poliomyelitis Surveillance Report,* issued by the U. S. Public Health Service.

"WHO EXPERT COMMITTEE ON POLIOMYELITIS
SECOND REPORT, GENEVA

JULY 15-20, 1957 — In view of the importance of the Expert Committee's Second Report, the Director-General of WHO authorized preliminary distribution to health authorities of a mimeographed draft of the Report prior to its final approval by the Executive Board.

"Section 2.3.3. of the Second Report discusses *the reporting and nomenclature of clinical poliomyelitis.* With the decreased incidence of paralytic polio in this country and with the increased recognition of non-polio viruses as agents causing epidemics as well as endemic cases of nonparalytic aseptic meningitis, all health departments have encountered problems in the reporting of poliomyelitis and polio-like diseases. Since the WHO Expert Committee has summarized these problems of nomenclature and presented specific recommendations as to reporting procedures, this section of the Second Report is presented below. Of particular interest is the recommendation that the term *'Non-paralytic poliomyelitis'* be replaced by *'aseptic meningitis syndrome'* with a qualifying phrase to be added regarding the etiologic agent, whether it be known, suspected, or unknown.

'2.3.2. *Reporting and nomenclature of clinical poliomyelitis.*

'The committee would again call attention to the value of reporting *paralytic* cases separately[1]. This has become of increasing importance now that other viral infections have been shown to be responsible for cases of aseptic meningitis syndrome clinically not differentiable from what has in the past been called 'non-paralytic poliomyelitis'.

'A clinical definition of *paralytic poliomyelitis* which has been adopted for purposes of reporting is that the patient must have clearly demonstrable paralysis (as opposed to transient weakness). This paralysis, of the flaccid type, should be recognized preferably by more than one physician on two consecutive physical examinations performed at least 24 hours apart. These examinations should be performed both during the acute phase of illness and during convalescence. Cases with cranial nerve involvement, including so-called bulbar cases, are to be listed among the paralytic group.

'In order to facilitate reporting of paralytic poliomyelitis cases it is the committee's opinion that the nomenclature dealing with the various clinical forms of poliomyelitis should be revised from that which was proposed in the first WHO Expert Committee Poliomyelitis Report prepared in 1953[2].

'The most important aspect of this revision concerns the use of the term 'non-paralytic poliomyelitis'. It is recognized that the concept of non-paralytic poliomyelitis is entirely correct, but this term has in the past been used much too indiscriminately. It has become an inclusive term for a heterogeneous group of non-suppurative varieties of meningo-encephalo-myelitis infections. These may be due to a number of agents both viral and other types. It seems unwise to continue the practice of having this heterogeneous group indiscriminately labelled as *poliomyelitis.* During epidemics of poliomyelitis it is possible to find a high percentage of cases of aseptic meningitis syndrome (perhaps up to 80 per cent.) designated as 'non-paralytic poliomyelitis' and which, in fact, actually do turn out to be examples of poliovirus infection. At other times during the summer season the percentage of cases designated as 'non-paralytic poliomyelitis' which turn out to be due to poliovirus infection, may be as low as 5 per cent.

'The clinical picture to which reference is made here is one of an individual usually suffering from an acute febrile illness, with headache, often vomiting, stiff neck or back, and with a pleocytosis in the spinal fluid with lymphocyte cells usually predominating after the first few days of illness. This syndrome can be caused by a variety of different agents[3] and discussion of their importance appears in section nine of this Report.

'For this reason it is recommended that the term 'Non-paralytic poliomyelitis', convenient though it may have proved to be in the past, should be eliminated. In its place it is suggested that the term *aseptic meningitis syndrome (etiology unknown)* be used when the identification of an etiologic agent by laboratory tests has not been made; or the term *aseptic meningitis syndrome (due to poliovirus — type 1, 2 or 3) or (due to Coxsackie virus A or B)* or *(due to ECHO virus type—)* etc. be substituted. The same sort of etiological qualification should be used in connection with cases of *acute encephalitis* of viral origin.

'Without laboratory assistance the differential diagnosis of these various clinical forms cannot readily be made. Nevertheless attempts to secure as accurate a diagnosis as possible is urged and the development of local laboratory facilities in areas where poliomyelitis already exists or is becoming a problem is indicated.

'If laboratory facilities are not available, and yet the epidemiological evidence is sufficient to suspect that a case of *aseptic meningitis syndrome,* or *encephalitis,* is due to poliovirus, the following terminology is suggested: *Aseptic meningitis syndrome (cause undetermined — poliomyelitis suspected)* or *Acute encephalitis (cause undetermined — poliomyelitis suspected)*. These latter cases should be so designated in national reporting. They should *not* be placed in the same category as that of paralytic poliomyelitis. It should be stressed that when comparisons are being made between countries, only paralytic cases should be considered.

'In view of the increasing importance of the *aseptic meningitis syndrome* and its recent occurrence in large epidemics, it is recommended that this syndrome be reported, with the etiologic agent specified when known.'"

"1. The Third World Health Assembly adopted paragraph 2 in resolution WHA 3.21 which emphasizes the importance of this.

"2. Other clinical forms of poliomyelitis which in the past have been designated by various terms can be listed as follows:

(a) *Inapparent infection with polioviruses* also designated as 'alimentary infection'. This indicates asymptomatic infection.

(b) *Abortive poliomyelitis* which is a highly nonspecific term which is comparable to the so-called minor illness of the acute disease.

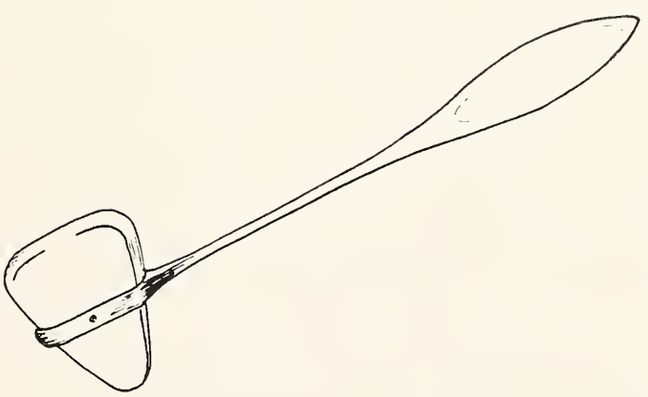
(c) *Non-paralytic poliomyelitis* which is an illness characterized by all the symptoms of paralytic poliomyelitis in which paralysis does not develop.

(d) *Paralytic poliomyelitis* which may be of the spinal, bulbar or cranial nerve type.

(e) *Encephalitis due to poliovirus*

For national reporting the clinical forms of poliomyelitis listed under (d) and (e) are the only ones which are acceptable.

"3. The commonest viruses causing aseptic meningitis syndrome besides that of poliomyelitis are: mumps, Coxsackie and ECHO viruses, lymphocytic choriomeningitis, herpes simplex, and the arthropod-borne encephalitis viruses. A considerable number of cases of aseptic meningeal syndrome can be caused by leptospira."



Tuberculosis Abstract

The possibility of perfecting a serum antibody determination test to differentiate between active and inactive tuberculosis is the nicest news to be heard in the field of phthisiology. Intense research is now going on under grants given by the National Tuberculosis Association. When the test is available it will help solve the problem that often confronts physicians in determining when and whom to treat.

Thought incurred from articles in the Bulletin of the National Tuberculosis Association and The American Review of Tuberculosis And Pulmonary Diseases.

The Maine Trudeau Society, Medical Section, Maine Tuberculosis Association



the clinical results are **positive** when

NILEVAR® restores positive nitrogen balance

The anabolic effects of Nilevar are quickly manifest both to the patient and to the attending physician.

When loss of nitrogen delays postsurgical recovery or stalls convalescence after acute illness and in severe burns and trauma, Nilevar has been found to effect these responses:

- **Appetite improves**
- **Weight increases**
- **The patient feels better**
- **The patient recovers faster**

Similarly Nilevar helps correct the "protein catabolic state" associated with prolonged bed rest in carcinomatosis, tuberculosis, anorexia nervosa and other chronic wasting diseases.

Nilevar is unique among anabolic steroids in that androgenic side action is minimal or absent in appropriate dosage.

Nilevar (brand of norethandrolone) is supplied as tablets of 10 mg. and ampuls (1 cc.) of 25 mg. The dosage of both forms is from 10 to 50 mg. daily.

SEARLE

Research in the Service of Medicine.
G. D. SEARLE & CO., CHICAGO 80, ILLINOIS



ANSWERING QUESTIONS

The Other Side of the Blue Shield Coin

Scandals, murders, and robberies nearly always get bolder headlines than marriages, births, or philanthropic donations — or the professional achievements of modern medicine. By the same rule of human perversity, doctors often take articulate notice of Blue Shield only when they have some fault to find with it.

Whenever four or five colleagues are gathered together — at a medical meeting, on the golf course, or in the hospital staff room — someone is bound to take out after the Blue Shield Plan. Very often the complaint has something to do with the Plan's payments. Perhaps the allowance for a certain procedure seemed quite inadequate for the particular case treated last month, or the Plan didn't cover any of the diagnostic work that was done for Mrs. Smith, or the Plan has been persistently requesting a detailed operative report to explain a pending surgical claim.

What's good about Blue Shield, anyway?

Well, first of all, haven't you found that — for every single case where the Plan's payment has been inadequate for the service required, or delayed for further information, or refused as ineligible — there have been scores of other cases for which reasonable payment has been promptly received? After all, when you come to think of it, isn't Blue Shield's payment for an eligible claim, properly presented, about as dependable as any source of income you've ever had on your books?

As for the Blue Shield payment in any given case, doctors have a unique recourse here, too. For the Blue Shield schedule of payments is arrived at — and adjusted — with the advice or at the request of the local profession. And if the scheduled payment is out of line with the service required in a particular case, you can ask for a review by a committee of qualified physicians. Blue Shield is the only prepayment program whose medical policies are subject to our guidance and control.

Another unique virtue of Blue Shield has to do with the economic segments of the patients whom it covers. Because of its community approach and its unmatched economy of operation, Blue Shield is the one medical prepayment plan that covers — or even tries to cover — the lower income groups who most need protection.

So it is that through Blue Shield, doctors are now being compensated for services rendered to a considerable number of people who, were it not for Blue Shield, would still qualify for our free services in hospital wards and clinics.

Most important of all good things about Blue Shield is that it is the Profession's Plan, and a successful plan, too. Nearly 43 million patients are now buying Blue Shield every month, and thousands more are joining them every day. In so doing, these friends and neighbors are expressing their confidence in medicine and in our American system of independent private practice.

If they think well of Blue Shield, maybe it merits a pat on the back from doctors too.

AUDITOR'S REPORT

JOSEPH STILLMAN
CERTIFIED PUBLIC ACCOUNTANT
97A EXCHANGE STREET
PORTLAND, MAINE

June 6, 1958

Maine Medical Association
Brunswick
Maine

Gentlemen:

I have examined the accounting records of the Maine Medical Association for the fiscal year ended May 31, 1958 and all related data and information pertinent thereto. I have found the records to be in order and all funds properly accounted for.

In my opinion, the enclosed Exhibits, Balance Sheet and Statement of Income and Expenses, with supporting schedules, present the true financial condition of the Maine Medical Association as of May 31, 1958, and the results of its operation for the Fiscal Year then ended.

Yours truly,

JOSEPH STILLMAN

Exhibit A

MAINE MEDICAL ASSOCIATION

BALANCE SHEET
As of May 31, 1958

ASSETS

Cash on Hand and in Banks (Schedule IV)		$43,500.48	
Accounts Receivable			
Dues	$ 1,760.00		
Advertising — Journal	4,255	6,015.41	
Loans Receivable — Medical Students		1,000.00	
Securities (Schedule VIII)		17,145.55	
Furnishings and Equipment		2,509.69	
Accrued Interest Receivable		119.58	
Prepaid Expenses:			
Annual Session	$ 180.97		
Insurance	36.13		
Postage and Mailing	43.40	260.50	
Trust Fund Investment (Schedule II)		4,552.55	
Total Assets			$ 75,103.76

LIABILITIES

Accounts Payable		$ 1,518.06	
Due for Payroll Taxes and Taxes Withheld		347.12	
Deferred Income:			
Convention Exhibit Space		3,320.00	
Total Liabilities			$ 5,185.18
Excess of Assets over Liabilities			$ 69,918.58

CAPITAL AND FUNDS

Capital Account (Schedule I)	$63,002.74	
Trust Funds (Schedule II)	4,552.55	
Other Funds (Schedule III)	2,363.29	
Total Capital and Funds		$ 69,918.58

Exhibit B

STATEMENT OF INCOME AND EXPENSE

FOR THE YEAR ENDED MAY 31, 1958

INCOME

Dues	$37,625.00	
Journal (Schedule V)	27,904.20	
Annual Session (Exhibits)	3,720.00	
Investments (Schedule VI)	800.03	
Miscellaneous Income	146.75	
Total Income		$ 70,195.98

EXPENSES

Administrative Expense of Office (Schedule VII)		$23,172.03	
Journal (Schedule V)		25,137.62	
General:			
Annual Session	$ 3,571.74		
President's Expenses	548.74		
Councilors' Expenses	555.01		
Medical Advisory Committee (Legal Counsel)	1,000.00		
Legislative Counsel	1,640.60		
National Education and Public Relations	1,139.32		
Other Committees	957.50		
Delegates New England Medical Societies	381.42		
Delegates American Medical Association	296.93		
New England Council Dues	100.00		
Woman's Auxiliary	343.13		
Fall Clinical Session	300.28		
Equipment	471.49		
Annual Rosters	235.00	11,541.16	
Total Expenses			$ 59,850.81
Net Income for the Period			$ 10,345.17

Schedule I

CAPITAL ACCOUNT
FOR THE YEAR ENDED MAY 31, 1958

Balance June 1, 1957	$ 55,020.86
Addition to Capital:	
Net Income for the year ended May 31, 1958 (Exhibit B)	10,345.17
Total	$ 65,366.03
Deduction from Capital:	
Other Funds (Schedule III)	2,363.29
Balance May 31, 1958	$ 63,002.74

Schedule II

TRUST FUND AND TRUST FUND INVESTMENTS
MAY 31, 1958

TRUST FUND INVESTMENTS

Prince A. Morrow Trust:			
36 Shares American Agricultural Chemical Co. (Cost)		$ 348.00	
Canal National Bank Savings Bank #3905:			
Balance June 1, 1957	$ 2,954.08		
Add: Dividends Received	162.00		
Interest on Savings	88.47	$ 3,204.55	
			$ 3,552.55
Thayer Library Trust:			
Portland Terminal Company 4% First Mortgage 1961			1,000.00
Total Fund Investments			$ 4,552.55

TRUST FUNDS

Prince A. Morrow Fund:		
Principal	$ 554.94	
Income	2,997.61	$ 3,552.55
Thayer Library Fund:		
Principal		1,000.00
Total Trust Funds		$ 4,552.55

Schedule III

SCHEDULE OF OTHER FUNDS
AS OF MAY 31, 1958

Special Projects Fund:			
Income from Investments:			
Fiscal Year Ended May 31, 1957	$ 700.79		
Fiscal Year Ended May 31, 1958	800.03		
Total	$ 1,500.82		
Less: Loans to Medical Students	1,000.00		
Balance May 31, 1958		$ 500.82	
American Medical Association Delegates' Fund:			
Budget for Fiscal Year Ended May 31, 1958	$ 800.00		
Less: Actual Expenditures for the Year	296.93		
Balance May 31, 1958		503.07	
Legislative Counsel Fund:			
Budget for Fiscal Year Ended May 31, 1957	$ 1,500.00		
Budget for Fiscal Year Ended May 31, 1958	1,500.00		
Total	$ 3,000.00		
Less: Actual Expenditures same periods	1,640.60		
Balance May 31, 1958		$ 1,359.40	
Total Other Funds			$ 2,363.29

Schedule IV

SCHEDULE OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE YEAR ENDED MAY 31, 1958

Cash Balance June 1, 1957			$ 33,254.54
Cash Received from:			
State Dues		$37,362.00	
Journal Portion of State Dues		1,408.00	
Journal Advertising		23,586.59	
Journal Miscellaneous		2,150.78	
Exhibit Space Rentals		4,000.00	
Investments		800.03	
Thayer Library Trust Investment		40.00	
Department of the Army — Medical Care Program		1,536.09	
Miscellaneous (Transfers, etc.)		1,226.15	
Members for American Medical Association Dues		13,733.00	
Members for Cumberland County Dues		516.00	
Employees for Taxes Withheld		3,007.72	
Total Cash Received			89,366.36
Total Cash			$122,620.90
Cash Disbursements:			
Office Administrative:			
Salaries	$18,223.06		
Travel Expense	1,221.38		
Office Expense	3,296.75	$22,741.19	
Journal:			
Salaries	$ 3,145.50		
Printing and Plates	20,399.44		
Office Expense	1,364.65	24,909.59	
Employees' Payroll Taxes		3,744.06	
General:			
Annual Session	$ 4,090.03		
Medical Advisory Committee (Legal Counsel)	1,000.00		
Legislative Counsel	1,640.60		
President's Expenses	548.74		
Woman's Auxiliary	393.13		
Miscellaneous (Delegates, Councilors, Committees)	4,305.36	11,977.86	
Cumberland County Medical Association for Members' Dues		513.00	
American Medical Association for Members' Dues		13,733.00	
Office Equipment and Furniture		471.49	
Loan to Medical Student		500.00	
Miscellaneous (Refunds, Transfers, etc.)		530.23	
Total Cash Disbursements			79,120.42
Cash Balance May 31, 1958			$ 43,500.48
Canal Bank Regular Checking Account		$41,558.88	
Canal Bank Special Checking Account AMA		140.59	
Maine Savings Bank Book #7751		1,801.01	
Total Cash in Banks May 31, 1958			$ 43,500.48

Schedule V

SCHEDULE OF JOURNAL INCOME AND EXPENSE FOR THE YEAR ENDED MAY 31, 1958

INCOME			
Journal Portion of State Dues		$ 1,450.00	
Advertising:			
State Journal Advertising Bureau	23,798.76		
Local Advertising	772.46	24,571.22	
Miscellaneous Income and Subscription		1,882.98	
Total Income			$ 27,904.20
EXPENSES			
Salaries:			
Secretary-Treasurer		$ 1,500.00	
Stenographer		1,645.50	3,145.50
Printing and Plates			20,160.84
Travel Expense			13.44
Office Expense:			
Office Supplies and Expense		$ 437.27	
Postage and Mailing		279.57	
Rent		260.00	
Telephone		164.59	
Prizes		330.83	
Payroll Taxes		165.14	
Insurance		60.22	
Miscellaneous Expense		120.22	1,817.84
Total Expenses			$ 25,137.62

Schedule VI

SCHEDULE OF INCOME FROM INVESTMENTS FOR THE YEAR ENDED MAY 31, 1958

Income From:			
Interest:			
United States Government Bonds		$ 50.00	
United States Treasury Bonds		110.00	
Portland Terminal Company Bonds		150.00	
Province of Nova Scotia Bonds		37.50	
Jacksonville Gas Corporation Bonds		40.00	
Maine Savings Bank		52.83	$ 440.33
Dividends:			
Central Maine Power Co. — Preferred		$ 42.00	
Consolidated Edison Co. of New York — Preferred		50.00	
The Chase Manhattan Bank		74.40	
First National Bank of Boston		73.70	
Guaranty Trust Co. of New York		72.00	
National Union Fire Insurance Co. of Pittsburgh, Pa.		46.00	
Stockton, Whatley, Davin & Co.		1.60	359.70
Total Income from Investments			$ 800.03

Schedule VII

SCHEDULE OF ADMINISTRATIVE EXPENSE AND OFFICE

FOR THE YEAR ENDED MAY 31, 1958

Salaries:			
Executive Director		$10,000.00	
Secretary-Treasurer		3,000.00	
Stenographers		5,223.06	$ 18,223.06
Travel Expense			1,217.27
Office Expense:			
Rent		$ 260.00	
Stationery, Supplies and Postage		1,399.19	
Telephone		806.96	
Auditing		375.00	
Payroll Taxes		522.24	
Dues, Subscriptions and Periodicals		182.29	
Miscellaneous Expense		186.02	3,731.70
Total Expense			$ 23,172.03

Schedule VIII

MAY 31, 1958

SCHEDULE OF SECURITIES

	Face	Cost
Bonds:		
United States Government Bonds, Series G Due March 1, 1961	$ 2,000.00	$ 2,000.00
United States Treasury Bonds, Due September 15, 1961	4,000.00	3,914.59
Portland Terminal Co., 5% First Mortgage 1961	3,000.00	3,045.00
Province of Nova Scotia, 3-3/4% 1971	1,000.00	995.00
Jacksonville Gas Corporation, 4% First Mortgage 1969	1 000.00	1,025.00
Stocks:		
12 Shares Central Maine Power Co., 3½% Preferred $100 par		948.00
10 Shares Consolidated Edison Co. of New York, Inc., Cumulated Preferred, no par value		1,090.00
22 Shares First National Bank of Boston		1,049.36
18 Shares Guaranty Trust Co. of New York, $20 par		990.00
31 Shares The Chase Manhattan Bank		1,028.10
23 Shares National Union Fire Insurance of Pittsburgh, Pa.		1,000.50
20 Shares Telfair, Stockton & Company, Inc. Common, $4.00 par		60.00
4 Shares Stockton, Whatley, Davin & Co.		00
2 Shares Prudence Bond Corporation		00
Total Securities		$ 17,145.55

COUNTY SOCIETIES

Androscoggin
President, Paul J. LaFlamme, M.D., Lewiston
Secretary, Donald L. Anderson, M.D., Lewiston

Aroostook
President, Melvin R. Aungst, M.D., Fort Kent
Secretary, Clyde I. Swett, M.D., Island Falls

Cumberland
President, Ralph Heifetz, M.D., Portland
Secretary, Stanley E. Herrick, Jr., M.D., Portland

Franklin
President, Wallace H. Duffy, M.D., Farmington
Secretary, Paul E. Floyd, M.D., Farmington

Hancock
President, William C. Luther, M.D., West Sullivan
Secretary, Russell G. Williamson, M.D., Blue Hill

Kennebec
President, Howard H. Milliken, M.D., Hallowell
Secretary, Arch H. Morrell, M.D., Augusta

Knox
President, David V. Mann, M.D., Camden
Secretary, Parker Heath, Jr., M.D., Rockland

Lincoln-Sagadahoc
President, Stanley R. Lenfest, M.D., Waldoboro
Secretary, George W. Bostwick, M.D., Newcastle

Oxford
President, Norman M. Jackson, M.D., Rumford
Secretary, Harry L. Harper, M.D., South Paris

Penobscot
President, J. Robert Feeley, M.D., Bangor
Secretary, Warren G. Strout, M.D., Bangor
Treasurer, Dexter J. Clough, 2nd, M.D., Bangor

Piscataquis
President, James H. Johnson, Jr., M.D., Milo
Secretary, Linus J. Stitham, M.D., Dover-Foxcroft

Somerset
President, Richard P. Laney, M.D., Skowhegan
Secretary, Harland G. Turner, M.D., Norridgewock

Waldo
President, Ernest W. Stein, M.D., Pittsfield
Secretary, George L. Temple, M.D., Belfast

Washington
President, Robert G. MacBride, M.D., Lubec
Secretary, Karl V. Larson, M.D., East Machias

York
President, William B. O'Sullivan, M.D., Saco
Secretary, C. W. Kinghorn, M.D., Portsmouth, N. H.

County Society Notes

YORK

May 8, 1958

The York County Medical Society met at the residence of Carl E. Richards, M.D., in Alfred. The dinner and business meeting were held at the Congregational Chapel.

Paul S. Hill, Jr., M.D., is in charge of the summer meeting of the society at Biddeford Pool; and Charles W. Kinghorn, M.D., will make the arrangements for the first fall meeting to be held in Kittery in October.

There were nineteen members present. They were Drs. William E. Dionne, Marcel D. Ouellette, Kenneth E. Leigh, Leopold A. Viger, S. Dunton Drummond, Robert F. Ficker, Edward W. Holland, Paul S. Hill, Jr., Carl E. Richards, William B. O'Sullivan, Robert D. Vachon, Melvin Bacon, Alexander W. Magocsi, James H. Macdonald, Dana B. Mayo, Alvin A. Hoffman, Roger J. P. Robert, Stephen A. Cobb, Charles W. Kinghorn.

Charles W. Kinghorn, M.D.
Secretary

LINCOLN-SAGADAHOC

May 20, 1958

The monthly meeting of the Lincoln-Sagadahoc County Medical Society was held at The Ledges, Wiscasset. There were seventeen members present.

Stanley R. Lenfest, M.D., President, called the meeting to order. A letter announcing an Institute on Mental Health at the Veterans Administration Center, Togus, on May 24, was read and an observer appointed.

John F. Andrews, M.D., discussed the major constitutional amendments proposed at the Interim Meeting of the Maine Medical Association House of Delegates. Dr. Andrews was instructed to approve the amendments as outlined by the Association.

Francis A. Winchenbach, M.D., President of the State Association, talked about the proposed effort to institute a committee to advise insurance carriers and members on malpractice cases, in an effort to help reduce our insurance rates. He also outlined the program of the annual State meeting, June 22, 23 and 24.

B. G. Clarke, M.D., Urologist-in-Chief, New England Center Hospital, gave an interesting talk on Prostatic Obstruction.

George W. Bostwick, M.D.
Secretary

New Members

ANDROSCOGGIN

Jane Matuzel, M.D., Western Maine Sanatorium, Greenwood Mountain

PENOBSCOT

Percy A. Leddy, M.D., University of Maine, Orono

SOMERSET

Edgar J. Smith, M.D., 1 Park Street, Fairfield

Announcements

Northeastern Surgical Conference To Be Held

The fourth annual Northeastern regional meeting of the International College of Surgeons will be held in the Equinox House, Manchester, Vermont, June 30-July 5.

The scientific, educational and recreational meeting will present an unusual opportunity to combine professional activities with a well-earned vacation.

Latest developments in the surgical specialties will be emphasized by the scientific lectures, panels and symposia, M. Leopold Brodny, M.D., of Boston, general chairman, announced. The educational program will cover medical economics, estate planning, tax problems and public relations.

The scientific program which will be presented on Tuesday, Wednesday and Thursday mornings and will include the following subjects: "Premedication for the Surgical Patient with Special Reference to the Tranquilizers," "Anatomical Factors in Goiter Surgery," "The Metabolic Response to Surgery," "The Neurosurgical Management of Intractable Pain of Cancer," "The Surgeons Role in Traffic Liabilities," "Modern Advances in the Preservation of Red Blood Cells."

Included in the motion picture program will be one by Philip Thorek, M.D., of Chicago, showing the perforation of the esophagus in a sword swallower.

Further information may be had by writing to Dr. M. Leopold Brodny, 636 Beacon Street, Boston 15.

Pineland Hospital and Training Center
Pownal, Maine

Carl Hedin General Hospital — Red Room

June 26, 1958 — Clinical Pathological Conference (Death Review and Microscopic Demonstration) 11:00 A.M.

New York University

Occupational Medicine, a full-time course for practicing physicians, will be given for eight weeks from September 15 through November 7, 1958 by the New York University Post-Graduate Medical School.

The course content covers the following areas: Preventive Medicine, including epidemiology and biostatistics, Administrative Medicine, Occupational Diseases, and Industrial Hygiene. It is aimed at meeting the need for specialized training in industrial medicine. Didactic instruction will be supplemented with field trips to industrial plants, governmental agencies concerned with industrial health and to union health centers. Opportunity will be given to attend medical, surgical, and clinical-pathological conferences held in the New York University-Bellevue Medical Center.

For further information write: Office of the Associate Dean, NYU Post-Graduate Medical School, 550 First Avenue, New York 16, N. Y.



American Board of Obstetrics and Gynecology

Applications for certification (American Board of Obstetrics and Gynecology), new and reopened, Part I, and requests for re-examination Part II are now being accepted. All candidates are urged to make such application at the earliest possible date. Deadline date for receipt of applications is September 1, 1958. No applications can be accepted after that date. It should be noted by prospective candidates that the deadline date will be August 1, in 1959.

Candidates are requested to write to the office of the Secretary for a current Bulletin if they have not done so in order that they might be well informed as to the present requirements. Application fees ($35.00), photographs, and lists of hospital admissions must accompany all applications.

Secretary: Robert L. Faulkner, M.D., 2105 Adelbert Road, Cleveland 6, Ohio.

University of Southern California School of Medicine Postgraduate Refresher Course

From August 5 to August 21, 1958, the University of Southern California School of Medicine will hold a postgraduate course in Honolulu and on board the S. S. Matsonia. The course will center around actual case histories, which will be used to emphasize diagnostic and therapeutic features.

Price range from $382.15 to $657.25, plus tuition $125.00.

Information concerning this course may be obtained from the Director of the Postgraduate Division, USC School of Medicine, 2025 Zonal Avenue, Los Angeles 33, California.

American Congress of Physical Medicine and Rehabilitation

The 36th annual scientific and clinical session of the American Congress of Physical Medicine and Rehabilitation will be held August 24-29, 1958 inclusive, at The Bellevue Stratford Hotel, Philadelphia.

Scientific and clinical sessions will be given August 25, 26, 27, 28, and 29. All sessions will be open to members of the medical profession in good standing with the American Medical Association.

Full information may be obtained by writing to the Executive Secretary, Dorothea C. Augustin, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

Necrologies

Cornelius J. Taylor, M.D.

1886-1958

Cornelius J. Taylor, M.D., 71, of Bangor died February 18, 1958.

A physician in the area for over forty years Dr. Taylor was one of the first medical examiners appointed in the State of Maine, a position which he held until 1954. He was a member of the American Medical Association and a Senior Member of the Maine Medical Association and the Penobscot County Medical Association.

Dr. Taylor was born in Bangor, December 19, 1886, the son of John and Mary Crane Taylor. A graduate of Bangor High School and Bowdoin College, he received his medical degree from the Bowdoin Medical School in 1911. He served his internship at Eastern Maine General Hospital, and practiced medicine in Orono for several years. He was an examiner for the Metropolitan Life Insurance Company and the New York Life Insurance Company.

Surviving are a niece, Mrs. Lawrence Evans of Washington, D. C. and a nephew, Thomas Taylor of Trumbull, Connecticut.

Clement P. Wescott, M.D.

1878-1958

Clement P. Wescott, M.D., 79, of Windham Hill, died February 16, 1958.

Dr. Wescott was a Senior Member of the Maine Medical Association and the Cumberland County Medical Society. He retired from the active practice of medicine six years ago.

He was born in North Gorham, July 14, 1878, the son of Charles E. and Mary Plummer Wescott. He attended schools in North Gorham, graduated from Hebron Academy and received his medical degree from Tufts Medical College in 1909. He did postgraduate work at Harvard University Medical School and at the Neurological Institute of Presbyterian Hospital in New York City. He began practicing medicine in Kingston, New York and moved to Portland in 1912.

Dr. Wescott was on the staff of the Maine General Hospital and a Portland Draft Board physician during World War II. A member of the First Parish Unitarian Church; Deering Lodge, AF & AM; Unity Lodge, IOOF; he was also a former member of the Woodfords Club and the Economic Club.

He is survived by a sister, Miss Nan L. Wescott of Portland.

Across The Desk — *Continued from page 220*

dispensing system followed by Veterans Administration. Too costly, Federal officials said. Result: Drug distribution dropped. Note: Medicare will continue to reimburse physicians for cost of drugs administered parenterally.

Mouth-to-Mouth Breathing Resuscitation Described

The mouth-to-mouth breathing technique of artificial respiration advocated for children was discussed in four articles in the May 17, 1958 issue of the Journal of the American Medical Association.

The technique, which has been adopted for use in children by the American Red Cross, has been found to be equally effective in adults, according to the articles.

Mouth-to-mouth breathing, sometimes called the "Biblical method" is the oldest known resuscitation technique. However, through the years manual techniques have been developed.

Now Dr. Archer S. Gordon and associates, University of Illinois College of Medicine, Chicago, have demonstrated through comparative experiments that the mouth-to-mouth technique is "unequivocally superior" to manual techniques in all age groups. It is the only one which assures that an adequate volume of air will enter the victim's lungs.

The other articles, all published under the auspices of the A.M.A. Council on Medical Physics, are by Dr. James O. Elam, Buffalo, N. Y., and associates; David B. Dill, Ph.D., Army Chemical Center, Edgewood, Md., and Dr. Peter Safar, Baltimore.

The council plans to revise its resuscitation pocket instruction card for artificial resuscitation. It also will issue a statement on the mouth-to-mouth breathing method based on the findings of these research groups.

The authors joined in a statement of principles, which follows: —Because resuscitation with expired-air inflation (a general term for mouth-to-mouth resuscitation and its variants) is "simple and effective," it is easily learned and adaptable to many resuscitation problems.

(Its "teachability" is demonstrated by the fact that 90 per cent of 164 untrained rescuers used the method satisfactorily after one demonstration, according to Dr. Safar.)

—Rescuers can maintain mouth-to-mouth breathing for an hour or more without fatigue even though the victim is twice the size of the rescuer.

—Obstruction of the airway above the larynx is the most common cause of failure of any artificial respiration method. But in expired-air breathing, this type of obstruction is prevented because the hands are free to keep the jaw slightly raised and the mouth open.

—If an obstruction occurs during resuscitation, mouth-to-mouth techniques allow for immediate recognition and removal.

—Because expired-air breathing has been proved of real value, information about the techniques should be distributed "as widely as possible."

Briefly the steps in mouth-to-mouth resuscitation in infants are:

1. Clear the mouth of any foreign matter with the middle finger of one hand. With the same finger hold the tongue forward.
2. Now place the child in a face-down, head-down position and pat him firmly on the back with the free hand. This should help dislodge any foreign object in the air passage.
3. Place the child on his back and use the middle fingers of both hands to lift the lower jaw from beneath and behind so that it "juts out."
4. Hold the jaw in the position described in step 3, using one hand only.
5. Place your mouth over the child's mouth and nose, making a relatively leakproof seal, and breathe into the child with a smooth, steady action until you observe the chest rise. As you start this action, move your free hand to the child's abdomen, between the navel and the ribs, and apply continuous moderate pressure to prevent the stomach from becoming filled with air.
6. When the lungs have been inflated, remove your lips from the child's mouth and nose and allow the lungs to empty. Repeat this cycle at a rate of about 20 times a minute. After every 20 cycles you should rest long enough to take one deep breath. If at any time you feel resistance to your breathing into the child and the chest does not rise, repeat step 2 and quickly resume mouth-to-mouth breathing.

Woman's Auxiliary to the Maine Medical Association

Mrs. Linus J. Stitham of Dover-Foxcroft, was elected President of the Woman's Auxiliary to the Maine Medical Association, at the annual meeting of the auxiliary on Wednesday, May 14, 1958 at the Elmwood Hotel in Waterville.

Other officers include: Mrs. Walter E. Penta of Portland, President-elect; Mrs. Richard S. Hawkes of Portland, First Vice President; Mrs. Benjamin L. Shapero of Bangor, Second Vice President; Mrs. Dexter J. Clough 2nd., of Bangor, Treasurer; Mrs. Paul W. Burke of New-

port, Recording Secretary; Mrs. Ralph C. Stuart of Guilford, Corresponding Secretary; Mrs. Philip B. Chase of Farmington, Parliamentarian.

Chairmen of Standing Committees include: Mrs. Penta, Organization; Mrs. Paul A. Millington, Camden, Public Relations; Mrs. Maynard B. Colley, Wilton, Program; Mrs. Ralph Stuart, Press and Publicity; Mrs. Howard H. Milliken, Hallowell, Bulletin and Today's Health; Mrs. James W. Reed, Farmington, Publications; Mrs. Peter B. Aucoin, Rumford, Necrology; Mrs. Cecil F. Thompson, Phillips, Legislation. Chairmen of Special Committees are as follows: Mrs. Donald F. Marshall, Cape Cottage, Civil Defense and Safety; Mrs. Franklin F. Ferguson, Cape Cottage, Health Council; Mrs. Paul A. Fichtner, Rangeley, American Medical Education Foundation; Mrs. John B. Curtis, Milo, Historian; Mrs. Richard Hawkes, Recruitment; Mrs. Arnold W. Moore, Augusta, Mental Health.

A luncheon at 1:00 p.m. for all members of the auxiliary followed the business meeting. Mrs. James N. Shippee of Winthrop, retiring President of the Auxiliary, introduced the guest speakers, Mrs. Paul E. Rauschenbach, Chairman of the Public Relations Committee of the Woman's Auxiliary to the American Medical Association, and Mrs. Esther M. Kennard, Secretary-Treasurer of the Maine Medical Association. A telegram from Francis A. Winchenbach, M.D. of Bath, President of the Maine Medical Association, brought greetings from the State Association.

Awards For Best Journal Articles

published during 1957-58

will be presented at the

General Assembly, Monday, June 23 at 4:00 P.M.

91 YEARS

TO HELP

YOU . . .

For 91 years we have served Northern New England with medical and dental supplies and equipment.

We are proud of the many friends we have made during this time through our association with both the professional and non-professional people of Maine.

Our goal has been and will continue to be better service to you in every possible way. We invite you to make the Geo. C. Frye Co. your headquarters for supplies and equipment.

GEO. C. FRYE CO.

116 Free Street Portland, Maine

FOUNDED 1867

"Service Is Our Most Important Product"

Physicians, Dentists and Hospital Supplies

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, July, 1958 | Number 7

Present Trend In The Use Of Retroperitoneal Gas In Urologic Diagnosis

MEYER EMANUEL, M.D.*

Presacral gas injection is a simple procedure consisting of the introduction of a gas by means of a needle in the retrorectal space, which communicates with the retroperitoneal tissue planes. . . . Carbon dioxide and nitrous oxide, gases which are rapidly absorbed by the blood stream and free from embolism phenomena are suggested as ideal media. . . .

Complaints and symptoms of a patient cannot always be translated into precise pathological entities or indications for a special type of surgery despite the excellent facilities provided by x-ray equipment with standard technics. In urology as in all branches of medicine and surgery there are many impasses to the ultimate diagnostic accuracy eagerly sought by the physician.

Over the years new technics using x-rays have evolved to extend the diagnostic horizon. The urologist has sought to see more and more of the kidney and the regions around it, and the adrenal gland. The latter has been most elusive since, unlike the kidney it is not identifiable with clarity, regularity or certainty in pyelographic studies or plain plates.

Apart from lumbar aortography the injection of retroperitoneal gas has been given considerable emphasis in the past eight years although its use dates back to the work of Carelli in 1921 who demonstrated the adrenal gland by injecting carbon dioxide through a needle in the flank, whose tip entered the retroperitoneal space in the region of the kidney.[1,6] This procedure came to be known as perirenal insufflation. Some years later when the method was revived using air or oxygen as the gas, results were impressive enough to result in frequent employment of the method until a high incidence of embolism and hemorrhage checked its further development.[19,6,16] Some urologists stated vigorously they preferred exploration to the risk of these grave complications.

In 1950 Ruiz Rivas modified the method by introducing the air into the space between the rectum and the sacrum.[5,13,6] He considered this area as "almost avascular, so that danger from air embolism is negligible." A survey conducted by Ransom, Landes and McLelland and reported in 1956 has shown that in the six years since 1950 four times as many presacral gas injections were carried out by urologists as perirenal insufflations during the preceding 35 years![15] Suffice it to say that the new technic is popular in small and large hospitals here and abroad and the literature is now replete with series of cases small and large, often with some minor modification by the individual authors. Many of the reports emphasize simplicity and freedom from serious complications.[2,6,12,13,10,8] The indications in the earlier series have been loose and at times frankly academic with the intention of acquiring a broad experience in the best application of the method.[16]

TECHNIC

In general the technic consists of introducing a needle (spinal or deep-injection type) into the retrorectal space at a point just below the tip of the coccyx or just lateral

*Urological Section, Surgical Service, Veterans Administration Center, Togus, Maine

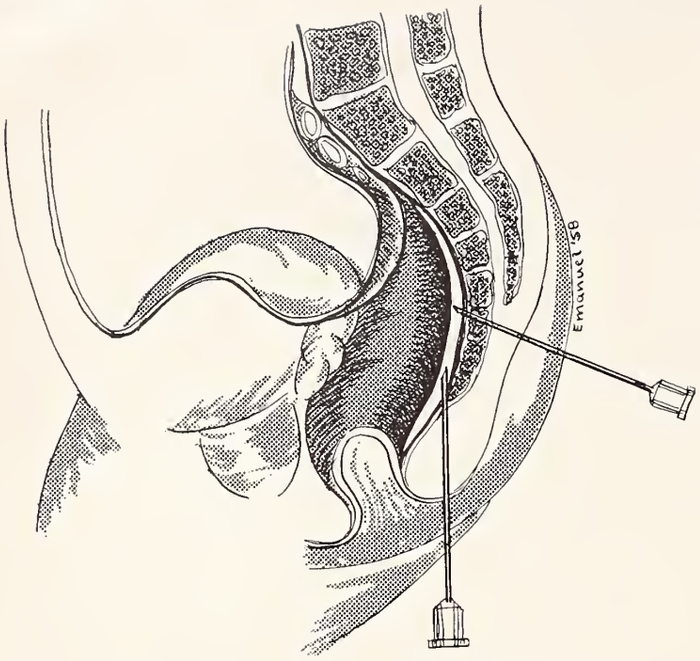


FIG. 1. The presacral or retrorectal space which communicates with the retroperitoneal tissue planes. Needles are shown entering the space below the tip of the coccyx or just lateral, at the level of the sacrococcygeal joint.

to the sacrococcygeal joint level on the right or left side. The patient lies on his right or left side, prone, or in the knee-chest position. Local anesthesia infiltration makes introduction of the needle painless, while a rectal finger directs the needle tip away to prevent entry into the rectum. After aspirating several times to assure that no blood vessel has been entered and after a trial injection of 10-30 cc. of air with no untoward result and with no resistance, 600-1800 cc. of a gas, usually air or oxygen, are slowly injected. This can be done by a means of a 50 cc. syringe with a three-way stopcock or a pneumothorax apparatus or a special arrangement of two flasks, one filled with the gas, the other with water. By adjusting the level of the one with water, the gas in the second flask is slowly forced through the needle at a pressure of about 20-40 cm. of water.

At least one set of authors have the patient sit up and down 10 times to diffuse the gas.[11] Depending upon the side in which the diagnostic problem is located, the patient is placed for a variable period on the right or left side, the gas tending to rise to the higher part of the body. Exposures are made immediately and at later intervals up to 24 hours or more. A-P, P-A, and lateral plates are taken. Some authors have increased the value of the method by tomography and stereoscopic views.[9,1,3,6] Some studies include a routine chest plate to trace the rise of the gas into the mediastinum. Air disappears after 6 to 10 days.[5,2] Oxygen is absorbed during a shorter period. I. V. urography or retrograde pyelography and even aortography may be added to the procedure.

ROENTGENOLOGICAL RESULTS

The kidneys and perirenal tissues are usually well visualized. Often the later plates prove to be most informative. The adrenals may be well identified or only suggestively outlined. In the case of adrenal tumors the increase in size and density affords good visualization. With small adrenal lesions the method is not adequate. Other structures such as the pancreas, retroperitoneal tumors, the margins of the liver and spleen, the female genital organs and the tissues about the urinary bladder may also be seen with variable definition.[6,4] The usual series of plates can be depended upon to give adequately outlined kidneys and the areas around them, large retroperitoneal masses, and the psoas shadows. The adrenals are less distinctly defined. The other organs mentioned cannot be fully visualized with reliable regularity or detail.

In the appended photos of x-rays may be seen some of the results obtained in our small series at Togus. We have used the knee-chest position, a spinal or No. 19 deep injection needle introduced on the right side of the sacrococcygeal joint and a small pneumothorax apparatus (Zavod; ACMI). We have used air and injected amounts between 600 and 900 cc. The procedure has been used by us 21 times in 16 patients with no complications. Most of the patients felt a mild abdominal discomfort which disappeared later. While some authors have permitted their patients to move about freely after the procedure, we have kept our patients in bed but without restricting position. Plates obtained at 18 to 24 hours were often better than initial ones. Two patients developed scrotal emphysema and three showed air in the buttocks. This occurs when the needle tip is not well inside the retrorectal space.

Apart from the question of liability of serious complications some authors have stated that spectacular and beautiful as the plates may be with their third dimension-like appearance, retroperitoneal gas injection may be superfluous and not justified since diagnostic conclusions related to renal pathology can be reached with the usual facilities.[16] Although our small series does not justify presumptuous generalizations, we are inclined to agree with this view in some degree yet reserve the opinion that the method has helped us define the pathologies with greater certainty. For example, it has demonstrated local spread of two renal tumors to surrounding tissues by limiting the entry of air completely around the mass, and emphasized the presence of renal cysts, not too clearly defined in the usual pyelographic studies or plain films. In one case it demonstrated the presence of more than one serous cyst not seen in the routine pyelographic study. There is little disagreement, however, in the application of presacral gas injection in the search for adrenal pathology. This was our objective in four cases of hypertension when no other cause could be found for it after thorough medical examinations and with the suspicion of pheochromocytoma still in mind. Most authors, therefore, do not feel the method will be abandoned.



FIG. 2. Retroperitoneal air completely surrounding a large renal cyst attached to the lower two thirds of the right kidney.

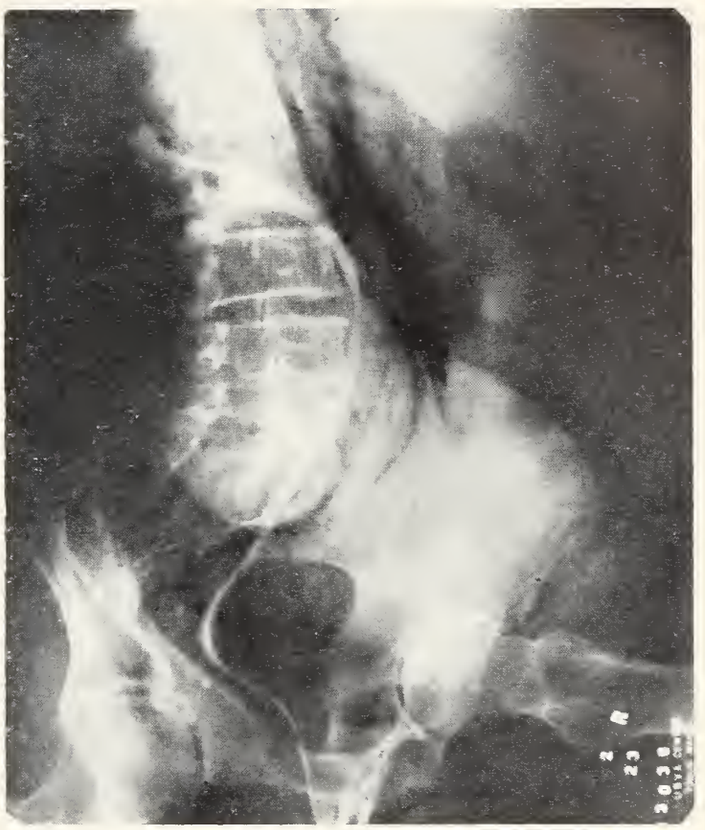


FIG. 3. Oblique view of a large renal cyst showing relationship to pelvis and ureter. Retrograde pyelography done 23 hours after the presacral introduction of air. The normal right kidney can be seen outlined in the background.

COMPLICATIONS

But a warning is sounded in the wake of the thousands of presacral gas injections which are being carried out, when air or oxygen is used. Fatalities due to air embolism have not been "very rare."[19] The survey of Ransom, Landes and McLelland has shown that while the presacral injection produces no hemorrhages and it is definitely safer than the corresponding air or oxygen injection into the flank, the incidence of air or oxygen embolism is jolting.[15] Among a large number of urologists who have performed the presacral technic 9201 times, there were 24 deaths and 33 severe non-fatal reactions. At least one fatality is known to have occurred in 1957.[18] It is likely that there are unreported cases.[16,19]

In fatality reports are described the "mill wheel" murmur diagnostic of this grave complication and the experiment-based life-saving procedure of turning the patient to his left side (with the head lowered in addition[19]) so that the right heart chambers lie in a higher plane than the left. In this position the "airlock" or "air trap" is displaced from the right ventricular outflow, to lie above it. In addition, the gas does not long accumulate in the right ventricle but is whipped up into a froth which is then propelled in the pulmonary circulation where it is eliminated.[16,19,14,17,13,6] It is interesting that one patient became cyanotic, had inaudible heart sounds and progressed rapidly to cardiac standstill while lying in this position during the injection of 500 cc. of air.[15] X-ray of the abdomen showed air in the vena cava,

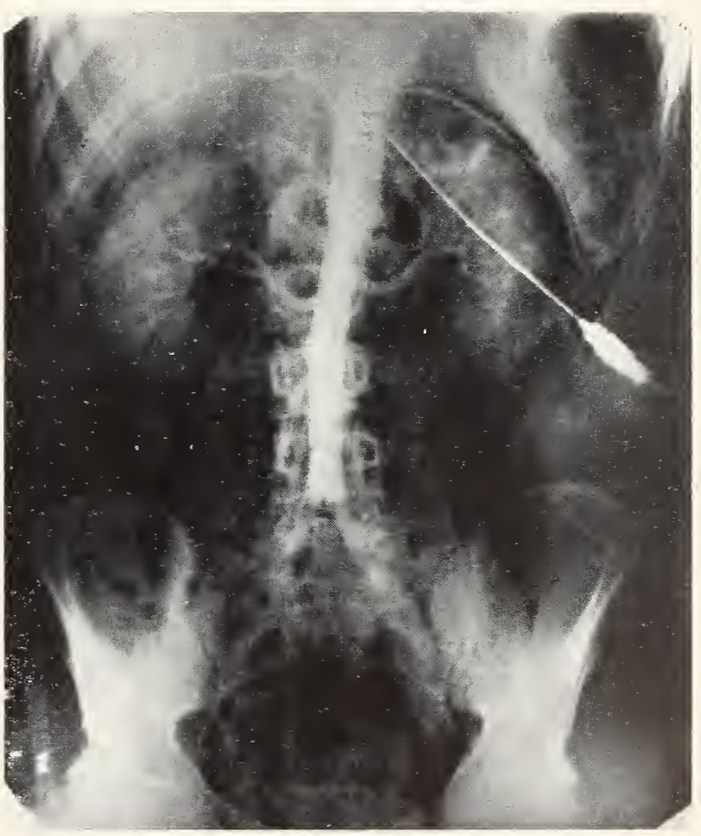


FIG. 4. Combined retroperitoneal air and aortography carried out 24 hours after the introduction of air. Patient is a young male with hypertension. No obvious abnormality.

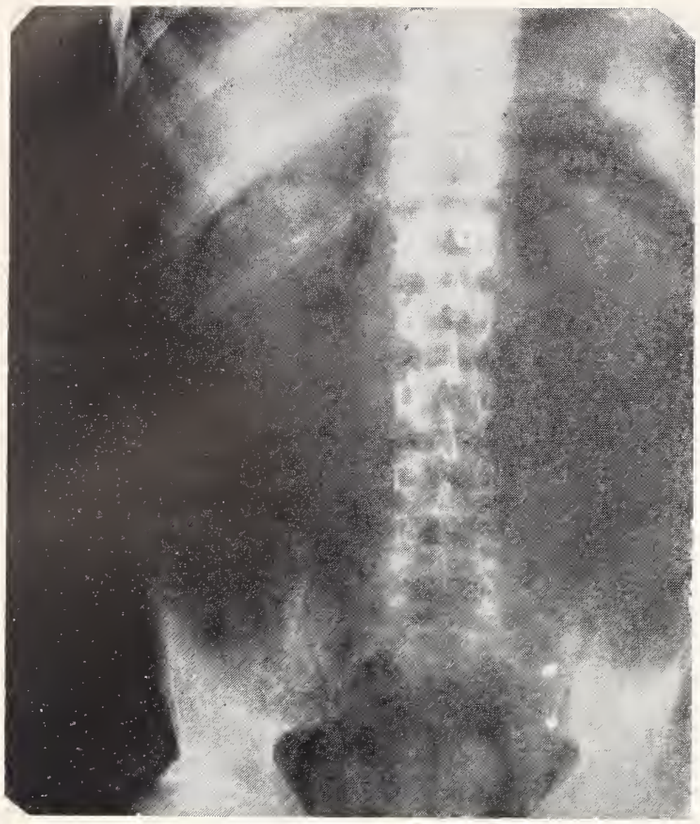


FIG. 5. Retroperitoneal air outlining the kidneys and suggestively defining the adrenal glands. Exposure about 10 minutes after completion of the injection.

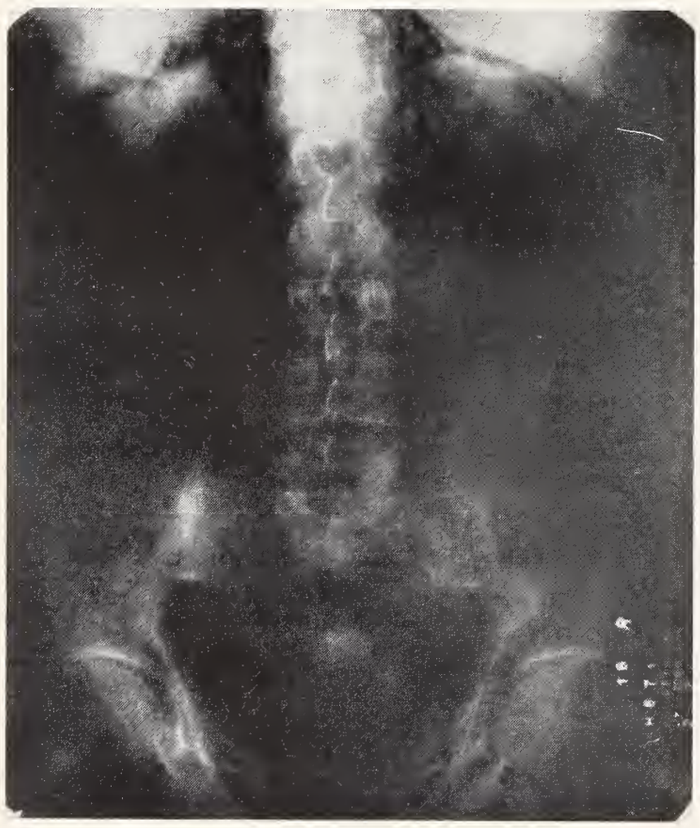


FIG. 6. Retroperitoneal air at 18 hours suggestively defining the adrenal glands with good outlines of the kidney masses.

hepatic and mesenteric veins. Another case expired after being turned to this position.[15]

The vast number of presacral gas injections have used air or oxygen. Helium which is even less soluble in water than oxygen or air has also been used and is credited with one reported fatality.[15] Although oxygen is absorbed more rapidly in the tissues than air its disappearance into the blood is still very slow. The danger of immediate embolism is no less with oxygen than with air.[15] Carbon dioxide is 20 times as soluble as air or oxygen in serum and therefore quickly disappears from the blood stream.[15,17] Nitrous oxide has similar high solubility (actually much more than CO_2), and is being used for diagnostic pneumoperitoneum with no untoward result.[21]

Prevention of Embolism by Use of More Soluble Gases

In angiocardiography carbon dioxide has proved to be remarkably safe, both in animals and humans. Direct injection into the left ventricle produced no ill effects. In two infants rapid intravenous injection of 7.5 cc. per Kg. was well tolerated with only a transient apnea. Stauffer, Durant and Oppenheimer who have done this work feel that embolism hazard should be eliminated in such use of carbon dioxide.[17] For many years the Rubin test for tubal patency has used carbon dioxide, though its original intent was the rapid absorption of the gas and not the avoidance of embolism.[17] CO_2 is now also advocated for double contrast studies of the colon, from which it disappears in 45 minutes.[20]

On the basis of experimentally established facts on carbon dioxide and nitrous oxide they should make ideal gases for use in retroperitoneal presacral injection. Carbon dioxide was used by Carelli and others in perirenal insufflation. This very factor of safety however it is thought by some, may detract from their value in examinations covering periods of several hours.[19] It may prove to be very adequate for brief observation periods immediately following the injection. Available current literature does not supply in detail the answer on this point. Meanwhile it is unlikely that presacral gas injection will be abandoned. Until the more rapidly absorbed gases are better established in their application, air and oxygen will probably continue to be used despite the hazard of embolism, where the indications are justifiable.

Summary

Presacral gas injection is a simple procedure consisting of the introduction of a gas by means of a needle in the retrorectal space, which communicates with the retroperitoneal tissue planes. The air or oxygen which have been mainly used for this purpose permit improved visualization of retroperitoneal structures, particularly the kidneys and adrenal glands, thus broadening the diagnostic value of roentgenography of these areas. Presacral injection is much safer than the discarded peri-

renal gas insufflation by way of the flank, which resulted in too many instances of embolism and hemorrhage, yet a much smaller but a significant number of fatalities and severe reactions have followed the presacral method from embolism alone. This will tend to increase caution and narrow the indications for its use. The "mill wheel" murmur of embolism is being brought to notice along with lifesaving procedures of turning the patient to his left side under such circumstances.

Carbon dioxide and nitrous oxide, gases which are rapidly absorbed by the blood stream and free from embolism phenomena are suggested as ideal media for use in presacral injection. This factor of rapid disappearance may however limit the period during which roentgenogram exposures can be made. This point at present is not fully elucidated in the current literature. It appears that presacral gas injection as a technic is unlikely to be abandoned even with the use of air or oxygen where the small but evident hazard is justified by the diagnostic objective, in cases where other means have not been adequate. Satisfactory results with the more soluble gases is very likely to give the method even more widespread use.



FIG. 7. Left renal tumor. Retroperitoneal air outlines the normal right kidney but fails to surround the left renal mass which consisted of a large renal cell carcinoma with attachment to surrounding tissues. Retrograde pyelography done one hour after the air injection.

REFERENCES

1. Mencher, W. H.: Perirenal Insufflation. J.A.M.A. 109: 1338, (October 23) 1937.
2. Blackwood, J.: Presacral Perirenal Pneumography. Brit. J. Surg. 39.111, (September) 1951. Abstracted in Radiology 59:294, 1952.
3. Rossi, L.: Pneumoperitoneum. Ann. Radiol. Diag. 23:340. Abstracted in Radiology 58:622, 1952.
4. Bonomini, B.: Some Results of the Laminographic Study of the Retroperitoneum. Radiol. Med. Milan, 37:105, (February) 1951. Abstracted in Radiology 58:154, 1952.
5. Mosca, L. G.: Diagnostic Retroperitoneal Emphysema. Medical Radiography and Photography 28:53 (No. 2) 1952.
6. Steinbach, H. L., Lyon, R. P., Smith, D. R., and Miller, E. R.: Extraperitoneal Pneumography. Radiology 59:167, 1952.
7. Teschendorf, W.: Use of Quickly Absorbable Gases in Roentgenographic Diagnosis. Act. Radiol. 36:297, (October) 1951. Abstracted in Radiology 59:470, 1952.
8. Lerman, F., Harper, J. G. M., Hertzberg, A. D., Berman, M. H., and Lerman, P. H.: Presacral Oxygen Injection. J. Urol. 70:312, 1953.
9. Tinckler, L. F.: Presacral Perirenal Pneumography. J. Fac. Radiologists 4:268, (April) 1953. Abstracted in Radiology 62:304, 1954.
10. Rollifield, S. H., Hamm, F. C., and Harlin, H. C.: Perirenal Air Insufflation by Paracoccygeal Method. J. Urol. 69:721, 1953.
11. Reese, L. and MacLean, J. T.: Presacral Insufflation of Oxygen for Outlining The Contents of the Retroperitoneal Space. Canad. M. A. J. 67:632. Abstracted in Radiology 61:689, 1953.
12. Renfer, H. R.: Pneumoretroperitoneum by Presacral Insufflation. Radiol. Clin. 22:29, (January) 1953. Abstracted in Radiology 61:857, 1953.
13. Russ, F. H., Glenn, D. L., and Gianturco, C.: Gas Embolism During Extraperitoneal Insufflation. Recovery in the Left Decubitus Position. Radiology 61:637, 1953.
14. Glassman, I., Shapiro, R., and Robinson, F.: Air Embolism During Presacral Pneumography. A Case Report. J. Urol. 75:569, 1956.
15. Ransom, C. L., Landes, R. R., and McLelland, R.: Air Embolism Following Retroperitoneal Pneumography. A Nationwide Survey. J. Urol. 76:664, 1956.
16. Baurys, W.: Serious Complications Associated with the Newer Diagnostic Methods in Urology. J. Urol. 75:846, 1956.
17. Stauffer, H. M., Durant, T. M., and Oppenheimer, M. J.: Gas Embolism. Radiology 66:686, 1956.
18. Lefkovitz, A. M.: Fatal Air Embolism During Presacral Insufflation of Air. J. Urol. 77:112, (January) 1957.
19. Durant, T. M. and Oppenheimer, M. J.: Embolism Due to Air and Other Cases. Veterans Administration Medical Bulletin MB-1, July 16, 1957.
20. Levene, G.: Rates of Venous Absorption of Carbon Dioxide and Air Used in Double Contrast Examination of the Colon. Radiology 69:571, (October) 1957.
21. Buice, J. W. and Gould, D. M.: Abdominal and Pelvic Pneumography. Radiology 69:704, (November) 1957.
22. Steinbach, H. L., Hinman, F., Jr., and Forsham, P. H.: The Diagnosis of Adrenal Neoplasms by Contrast Media. Radiology 69:664, (November) 1957.

Subtotal Gastrectomy For Peptic Ulcer

A Clinical and Pathological Study

F. P. Turner, M.D.* and F. A. Spellman, M.D.*

The purpose of this study is to evaluate subtotal gastrectomy as a definitive surgical technique for the treatment of benign peptic ulcer. During a six-year period between January, 1951, and January, 1957, 179 consecutive gastric resections were performed with an operative mortality of 1.1 per cent (Table No. 1). Twenty-three miscellaneous definitive procedures were also carried out during this six-year period without mortality. Follow-up studies were carried out in 172 patients.

Management of the Hospitalized Patient with Peptic Ulcer

In general, all patients with peptic ulcer, with the exception of those with acute free perforation are admitted to the Medical Service. After thorough evaluation an extensive trial of medical therapy is then carried out. Diagnostic problems and patients who present problems in medical management are presented to a combined Medical-Surgical Gastroenterological Conference for discussion. All patients with gastrointestinal bleeding are also presented before this group, and all such patients are individually followed by a team consisting of a surgeon and a physician. Operative treatment is recommended for those patients who have failed to respond to adequate medical therapy. Following operation, the patient is recalled to the hospital for follow-up examination at periodic intervals. As a rule he is seen one, three, and six months following surgery and thereafter at yearly intervals for the next five years. In the event that further symptoms develop requiring hospitalization, the patient is readmitted to the Medical Service, and his case re-evaluated by the physician who had originally treated him prior to operation.

Clinical Material

During this six-year period definitive surgery for peptic ulcer was carried out in 202 patients (See Table No. 1). One hundred and seventy-nine of these patients were treated by subtotal gastrectomy; and of these, 115 had duodenal ulcer, 42 had gastric ulcer, and 12 had pyloric ulcer. Both gastric and duodenal ulcers were found in three patients. The indications for surgery are shown in Table No. 2. Emergency operations were carried out in 21 patients because of severe gastrointestinal tract hemorrhage. Thirty per cent of the patients with duodenal ulcer gave a history of having had an acute free perforation on one or more occasions. Twenty-two of the 70 patients operated upon because of intractability had never experienced other complications of the disease such as obstruction, bleeding, or acute free perforation. The patients varied in age from 20 to 77 (Table No. 3). Duration of symptoms is shown in Table No. 4. The typical patient with duodenal ulcer was 45 years old with symptoms of from 10 to 11 years' duration. A typical gastric ulcer patient was 56 years old with a history of symptoms of three to five years. Thirty-five per cent of the patients with gastric ulcer gave a history of symptoms of less than one year's duration.

TABLE NO. 1

Surgery of Peptic Ulcer VA Hospital, Togus, Maine		
1951-1957		
Subtotal gastrectomy		179*
Hofmeister antecolic	105	
Hofmeister retrocolic	26	
Schoemaker-Billroth I	48	
Total gastrectomy		1
Takedowns and revisions		9
Gastrojejunostomy		5†
Gastrojejunostomy and vagotomy		2
Transthoracic vagotomy (for marginal ulcer)		6
	Total	202

*Operative deaths — 2
†Nonoperative death — 1 (pulmonary tuberculosis)

The Operation

Definitive surgery for the treatment of peptic ulcer

*Surgical and Medical Services, Veterans Administration Center, Togus, Maine

TABLE NO. 2

SUBTOTAL GASTRECTOMY FOR PEPTIC ULCER
Major Indications for Surgery

	Gastric	*"Pyloric"*	*Duodenal*	*Duodenal and Gastric*	*Pyloric Prolapse*	*Pathology not Found*	*Total*
Intractable	9	6	54	0	0	1	70
Obstruction	5	4	20	2	2	0	33
Bleeding (elective)	11	0	24	1	0	3	39
Bleeding (emergency)	8	1	11	0	0	1	21
Perforation (prophylaxis)	0	1	6	0	0	0	7
(?) Cancer	9	0	0	0	0	0	9
TOTAL							
History of acute free perforation	42	12	115	3	2	5	179
(7 on 2 occasions)	4	3	34	1	0	0	42

TABLE NO. 3

AGE AT TIME OF OPERATION

Age	*No.*
20-29	17
30-39	46
40-49	40
50-59	47
60-69	27
70-79	2
	179

TABLE NO. 4

DURATION OF SYMPTOMS

Less than 1 year (gastric 15) (duodenal 4)	19
1-10 years	62
10-20 years	56
20-30 years	18
30 years	11
"years"	13
	179

during the period of this study has been virtually limited to the traditional three-quarter gastric resection. In four and a half years only one posterior gastroenterostomy was carried out. This was carried out in a debilitated patient with far-advanced tuberculosis and severe pyloric obstruction. A posterior gastroenterostomy was performed as it was felt that he could not survive an operation of any greater magnitude. The other gastrojejunostomies were carried out during the first two years of this study. Transthoracic vagotomy was carried out only for the treatment of postgastrectomy marginal ulcer. Although the operations were carried out by various members of the Surgical Service, the technique of subtotal gastrectomy as performed in this series was well standardized and has in general conformed with that described in a previous issue of this journal[1]. A 70 to 75 per cent resection was carried out, and continuity of the bowel was then established either by means of a short loop (4 to 6 inch) Hofmeister gastrojejunostomy or an end-to-end gastroduodenostomy of the Schoemaker-Billroth I variety. A Polya antecolic anastomosis was performed in one case. Antiperistaltic loops were fashioned in six cases and isoperistaltic loops in the remainder. On six occasions, because of anticipated difficulty in obtaining safe inversion of the duodenal stump, we divided the specimen just above the pylorus and removed the remaining antral mucosa in the manner described by Bancroft. A catheter duodenostomy was found necessary on two occasions. There were two operative deaths. One death occurred in a 77-year-old male with recurrent massive hemorrhage from a large gastric ulcer. The second death was in a young patient with a massive duodenal ulcer completely encircling the duodenum and associated walled-off perforation and abscess cavity. There were no nonoperative deaths. Significant postoperative complications occurred in 25 per cent of the patients. Postoperative complications were found to be three times as frequent in the patients who were operated upon within the first two weeks of admission as they were in the patients who had been prepared for surgery by more than two weeks of conservative

TABLE NO. 5

Location of Ulcer Disease 179 Consecutive Patients Treated by Subtotal Gastrectomy	
Duodenum, anterior wall	24
Duodenum, posterior wall	19
Duodenum, superior wall (saddle)	14
Duodenum, multiple	49
Duodenal stenosis only (saddle ulcers?)	9
Pyloric, anterior wall	3
Pyloric, superior wall (saddle)	5
Pyloric, annular	1
Pyloric, multiple	3
No pathology found	5
Pyloric stenosis (hypertrophy and prolapse of antral mucosa)	2
Prepyloric, anterior wall	3
Prepyloric, posterior wall	1
Prepyloric, saddle	6
Prepyloric, multiple	1
Gastric, saddle	25
Gastric, multiple	1
Gastric and prepyloric (multiple)	5
Prepyloric and duodenal (multiple)	2
Pyloric and duodenal	1

medical therapy. Throughout the greater portion of this period of study concerted efforts were made to obtain ulcer healing prior to operation. It is believed that the satisfactorily low postoperative morbidity and mortality have been due in part to this conservative approach.

Pathological Findings

Although it is widely accepted that an adequate ulcer operation does not require removal of the ulcer itself, in general, attempts to remove the ulcer were carried out. The stomach was usually removed from above downwards. After stay sutures were placed on the duodenum, a rubber-shod clamp was placed across the distal stomach, and the duodenum was transsected with a scalpel below the pylorus. The open duodenal stump was then thoroughly inspected prior to closure, and a note made of any disease which had been left in situ. Because it has been possible to remove the disease in so many instances, extensive pathological material has accumulated, which we believe to be of interest. The locations of the disease process in the various cases are listed in Table No. 5. More than one area of duodenal ulcer was found in 43 per cent of patients. Multiple areas of involvement were found in 19 per cent of the patients with pyloric, prepyloric, and gastric ulcer. These figures are appreciably higher than those generally found in the literature. Activity of the ulcer process is shown in Table No. 6. The duodenal ulcer disease was entirely removed in 58 patients (50.5 per cent), partially removed in 25 (21.7 per cent), and left in situ in 32 patients (27.8 per cent). Either gross or microscopic examination showed the ulcer process to be healed in 40 per cent of patients with duodenal ulcer. If the ulcer process was found on the anterior wall, only 26 per cent were found to be active; whereas in the case of posterior-wall disease, 95 per cent of ulcers were active at the time of operation. When the disease was located in a saddle location along the superior wall of the duodenum, 70 to 75 per cent of the ulcers were found active. It is surmised that many of the cases with duodenal stenosis were due to the healing of such saddle-type ulcers. In instances where so-called "kissing ulcers" were found on both the anterior and posterior wall of the duodenum, approximately one third of these ulcers were healed; one third active; and in one third of the cases on ulcer was healed and the other was active. Eighty-three per cent of all pyloric and gastric ulcers were found to be active at the time of operation.

With the anterior-wall duodenal ulcers, the most common indication for operation was found to be intractability. Bleeding was found to be the most common indication for operation in posterior-wall duodenal ulcers. With saddle ulcers, obstruction was the most common indication. And in the cases with multiple areas of ulceration operation was performed either for intractability or for obstruction. Bleeding was the indication for surgery in four of the five instances where no disease was found. It is of interest that some degree of cicatricial stenosis was found in 60 per cent of the patients with multiple areas of duodenal ulceration and a 44 per cent of the patients with single ulcers. Cicatricial stenosis was also a common finding in patients with ulcer in the pyloric channel. Two of the patients with gastric ulcer had hour-glass contracture. Three patients with pyloric or gastric ulcer also had duodenal disease. Five other patients with gastric ulcer had scarring of the anterior wall of the duodenum, possibly indicating that the patient had had a duodenal ulcer at some time in the past.

Follow-up Studies

Follow-up studies have been carried out on all patients who were operated upon for benign peptic ulcer during this period of study. In seven patients follow-up data was insufficient to permit proper analysis. During the period of follow-up study eight patients died of causes unrelated to peptic ulcer or gastric surgery. Two patients were admitted to neuropsychiatric hospitals for treatment, and a third patient committed suicide approximately two years after operation. Six patients required further surgery for intestinal obstruction, five of these had intestinal obstruction due to adhesions and one had obstruction due to an internal

TABLE NO. 6

Ulcer Activity (Clinical or Pathological)							
	Gastric	*"Pyloric"*	*Duodenal*	*Duodenal and Gastric*	*Pyloric Prolapse*	*Pathology not Found*	*Total*
Active	36	9	52	0	0	0	97
1 of 2 ulcers healed	2	1	17	0	0	0	20
Healed	4	2	46	3	2	5	62
	42	12	115	3	2	5	179

hernia following a retrocolic anastomosis. Eight patients had further surgery because of incisional hernia. Three patients developed chronic relapsing pancreatitis, and one of them was operated upon with relief of symptoms. The other two patients responded to medical therapy. Four patients developed postoperative gastritis manifested by hematemesis within six weeks following the operation. In one patient hematemesis was massive; exploration was carried out; and at this time a very small acute gastric ulcer was found on the gastric side of the tanastomosis. This was suture-ligated. This patient has since been free of trouble. Hematemesis was only small in amount in the other three patients, and they responded to medical therapy and have subsequently been free of trouble. Following operation, two patients had hemorrhage from an excluded duodenal ulcer in the immediate postoperative period, and suture ligation of the ulcer base was carried out in each of these two patients with satisfactory results.

Recurrent peptic ulceration took place in eight patients, or 4.5 per cent. All of these took place in patients with duodenal ulcer, giving a true recurrence rate for subtotal gastrectomy in patients with duodenal ulcer of 7 per cent (Table No. 7). The average time of recurrence was eight and a half months, and recurrences took place in from three to thirteen months. Two of the patients with recurrent ulceration received only medical therapy with satisfactory response to date. Three patients were treated by transthoracic vagotomy with satisfactory outcome, and three additional patients were treated by means of take-downs of the anastomosis and sleeve resection of the remaining stomach. An abdominal vagotomy was also carried out in one of these patients. A second recurrence was experienced by one patient who had an acute perforation of a marginal ulcer following a take-down and sleeve resection done elsewhere. This patient had originally had a subtotal gastrectomy at this hospital. After closure of the perforated marginal ulcer he continued to have peptic-ulcer symptoms, and these were finally controlled by transthtoracic vagotomy. Gastrointestinal-tract bleeding of mild degree occurred in four additional patients. In two of these patients bleeding is thought to have been due to alcoholic gastritis. They had had no associated ulcer-type pains, and gastrointestinal studies and gastroscopy had failed to reveal the presence of a mar-

TABLE NO. 7

Recurrence Following Subtotal Gastrectomy				
	Number of Operations		*Recurrences*	*Per cent*
All Cases	(Schoemaker-Billroth I	48	2	4.2
	(Hofmeister antecolic (2 deaths)	105	5	4.8
	(Hofmeister retrocolic	26	1	3.9
	TOTAL	179	8	4.5
Duodenal ulcer	(Gastrojejunostomy (Hofmeister)	98	6*	6.1
	(Gastroduodenostomy (Billroth I)	17	2†	11.7
	TOTAL	115	8	7.0

Average time of recurrence — 8.5 months (3-13 months)

No recurrence following resection for gastric ulcer.

*1 patient treated medically and has now been free of further recurrence for six months.
†1 patient treated medically and has been free of further recurrence for past three and a half years.

Subtotal gastrectomy is of considerable magnitude and is followed in a number of patients with certain postgastrectomy sequelae such as loss of weight, dumping syndrome, and in some . . . loss of strength and inability to resume their former occupation. Nevertheless this operation remains the most generally acceptable of all the operative techniques for the treatment of peptic ulcer, and we have no hesitation in recommending it for the treatment of peptic ulcer in any patient who is in good physical condition.

ginal ulcer. In the third patient operation had originally been carried out for gastrointestinal-tract bleeding, but at operation no evidence of peptic ulcer either in duodenum or stomach had been found. The patient had had hypertrophic gastritis, and liver biopsy had shown a chronic hepatitis. It is felt that his recurrent bleeding was probably again on the basis of hypertrophic gastritis and some type of hemorrhagic diathesis. In the fourth patient gastrectomy had originally been done for a gastric ulcer. This elderly patient with one remaining polycystic kidney also was shown on biopsy to have a chronic hepatitis. Postoperatively he complained of melena, and postoperative gastric analysis showed absence of free hydrochloric acid. It is doubtful whether either of these four patients had a true marginal ulcer at the time of their bleeding episodes.

Some variety of postgastrectomy syndrome has been experienced by approximately 40 per cent of the patients (Table No. 8). However, severe and persistent dumping syndrome was experienced by only one patient. The dumping syndrome is a common occurrence following sub-total gastrectomy, but is usually mild and tends to disappear during the first 12 months following surgery. It may be manifested by one or more of the following postprandial symptoms, epigastric fullness, nausea, vomiting, weakness, feeling of warmth and sweating, and occasional diarrhea. The symptoms can usually be relieved by lying down an can be modified or prevented by limiting the intake of sweet liquids. As the months go by, the gastrectomized patient rapidly adjusts to his new alimentary tract and learns to avoid the foods that disagree with him. Although when queried many patients will admit having these symptoms, it is quite unusual for a patient to return voluntarily to the hospital because of them. This syndrome in our experience has occurred following operations of either the Billroth I or Billroth II variety although it has been generally more mild following a Billroth I anastomosis. In only one Billroth I patient has the dumping syndrome continued over a period of several years in any appreciable degree, and in this particular patient the picture was complicated by unusual anxiety features. Thirty-eight (or 54 per cent of these patients experienced neuropsychiatric symptoms, usually mild anxiety. Approximately one half of the

TABLE NO. 8

INCIDENCE OF DUMPING SYNDROME FOLLOWING SUBTOTAL GASTRECTOMY

	Antecolic Anastomosis (105)	*Retrocolic Anastomosis* (26)	*Billroth I* (48)
Severe	2	4	0
Moderate	6	3	1
Mild	29	10	16
TOTAL	37	17	17
PER CENT	35%	65%	35%

patients with dumping syndrome gained weight following surgery, and approximately one half lost weight, indicating that the dumping syndrome is not necessarily associated with poor nutrition. Intermittent severe diarrhea was experienced for several years following surgery in two patients.

The nutritional status was considered satisfactory by the examiner in 90 per cent of the patients followed. Many patients, albeit well satisfied with the results of the operation, have been unable to return to their best preoperative weight and have leveled off at from 10 to 20 pounds less than normal. In some instances these patients were obese prior to operation and have found their new weight level to be an improvement. In 10 per cent of the patients, however, weight loss has been noticeable. Loss of weight following gastric resection is believed partially due to the increased excretion of fecal fat and nitrogen. A more important causative factor however is believed to be the decrease in size of the gastric reservoir and the operative removal of the pyloric sphincter. The majority of gastrectomized patients can be induced to gain weight by provision of sufficient calories in frequent small feedings.

Seventy-one per cent of our patients have returned to work. This figure falls within the accepted range of 69 to 85 per cent quoted by the American Gastroenterological Association. The great majority of the remainder were either unemployed, retired, or physically unable to work because of unrelated conditions.

Gastric analyses were carried out postoperatively in 91 patients. No free acid was found in 49; from 0 to 25 degrees of free acid in 28; and 25 degrees or more

of free acid in 14. The average for the group was 10.6 degrees. It is of interest that of the eight patients who developed marginal ulcers following subtotal gastrectomy only one (on one determination) had no free hydrochloric acid. Free-acid levels ranged from 15 degrees to 90 degrees postoperatively in the other seven with an average of 48 degrees. We consider the persistent high acid levels in these patients with recurrent marginal ulceration to have been of significance.

Discussion

The surgery of peptic ulcer has long been controversial, and new surgical techniques are constantly being devised. Although subtotal gastrectomy of either the Billroth I or Billroth II variety continue to be the most popular definitive surgical procedure for the treatment of peptic ulcer, there is still a certain degree of dissatisfaction with the end results. In order to check on the efficacy of the surgical treatment of peptic ulcer it is incumbent therefore on any clinic that handles large numbers of these patients to maintain an active follow-up program. In this way a base line can be established from which one can make comparisons with the results published in the literature following either identical operations or following newer and more experimental methods of treatment. Subtotal gastrectomy is of considerable magnitude and is followed in a number of patients with certain postgastrectomy sequelae such as loss of weight, dumping syndrome, and in some patients loss of strength and inability to resume their former occupation. Nevertheless this operation remains the most generally acceptable of all the operative techniques for the treatment of peptic ulcer, and we have no hesitation in recommending it for the treatment of peptic ulcer in any patient who is in good physical condition. In such patients the mortality is practically zero. The postoperative morbidity is increased in patients showing poor nutrition, advanced age, and the presence of other disease entities such as heart disease, pulmonary disease, diabetes, and obesity. However, it should be recognized that in many of these patients the operation has become mandatory because of severe disease and therefore can frequently be considered life-saving. Recurrences following this operation have been satisfactorily low and compare favorably with most other reports in the literature. In the patients where recurrences have taken place, symptoms have been satisfactorily controlled by subsequent sleeve resection and reanastomosis or transthoracic vagotomy. Finally it should be pointed out that patient satisfaction is extremely high following subtotal gastectomy. With the exception of the patients with recurrent marginal ulceration an increase in well-being has been experienced by almost all such patients, and it is extremely unusual to find a patient who claims that his physical condition is worse than it was prior to gastrectomy.

Conclusions

A survey has been made of all subtotal gastrectomies carried out for peptic ulcer in the Veterans Administration Hospital, Togus, Maine, between January, 1951, and January, 1957. The pathological findings in these 179 patients were analyzed. The operative mortality was 1.1 per cent. The recurrence rate was 7 per cent in duodenal ulcer. There were no recurrences in patients operated on for gastric ulcer.

Reference

(1) Turner, F. P.: Indications for the Schoemaker-Billroth I operation in the treatment of peptic ulcer. J. Maine Med. Assoc. *44*: 186, 1953.

"This would justify the adage that it is not what you eat that causes the peptic ulcer but what is eating you." Lowell D. Snorf, M.D., The Journal of the American Medical Association, October 27, 1956, page 858. Selected by Andrew M. Babey, M.D., Las Cruces, N. M.

Review Of Suicide Cases With Reference To Appraisal Of Their Risk And Prevention

Donald H. Daniels, M.D.*

There are many definitions of suicide found in medical literature, and these collectively offer an excellent background for the understanding and evaluation of the risk and degree of intent to be found in any patient contemplating self-destruction.

Magnitude of Suicidal Problem

General Statistics

In this country, about 16,000 suicides are reported annually and in addition about 100,000 suicidal attempts are believed to occur annually. It ranks ninth among leading causes of death. It is also the second most common cause of death in college students. Thus, every physician may find himself in a position in which he must decide on the degree of suicidal risk that a given patient represents[1]. This fact has a direct relation to the care of our patients, both on our wards as well as during tours of Officer of the Day duty; and it is because of this, that this matter has been selected as a subject for discussion, with the hope that if the physician becomes involved with such a case, he can be reminded about the course to follow that will prevent these disasters, to some degree at least. Further, it is common knowledge that a determined suicidal patient will eventually succeed. The suicide rate tells only part of the story. A more accurate picture of this medical and social problem would be obtained if all attempts at suicide were included in the rate.

Current Concepts of Suicide in Reference to Risk Evaluation

Suicide is a reaction common to the mentally deranged of many types. It is a mistake to assume manic depressive psychosis is the principal suicidiferous disorder and to think so may well create a false sense of security. Involutional melancholia slightly exceeds manic depressive psychoses in gravity, if not in frequency of the suicidal risk[1]. There are many definitions of suicide found in medical literature, and these collectively offer an excellent background for the understanding and evaluation of the risk and degree of intent to be found in any patient contemplating self-destruction. Factors of psychologic, sociologic, cultural and ecologic nature all contribute to the motivation of suicide. For example, suicide has been said to represent an attempt to escape from an unbearable situation which represents the loss of love, and that through death, one is joined with the loved one or that one will make a new start with reincarnation of the good self, if the bad self is destroyed[6]. Zilboorg[2] considered suicide an archaic response to inner conflict, a psychobiologic phenomenon whose force is derived from the instinct for self-preservation, since through suicide man achieves fantasied immortality and an uninterrupted fulfillment of his pleasure seeking ideals. Hence the suicidal fantasy is an effort at problem solving, although misdirected, and an effort to gain satisfaction in a situation of great emotional distress[3]. K. Menninger[4] grouped suicides as aggressive (the wish to kill) and submissive (the wish to be killed). In the former, the lost love-hate object (wherein the patient himself in a circuitously sadistic path of self-punishment for loss of the loved one) is regained and thus the patient brings the torture and suffering upon himself. This sadism redirected upon himself can ultimately lead the regressed narcissistic, psychotic patient to suicide, whereas the submissive suicide punishes himself for the severe guilt that he experiences about his erotic feelings which are homosexual in character[5].

There are three coexisting conscious or unconscious determinants involved in the suicide act:

1. A promise or hope of greater future satisfaction (e.g. reunion in death with a lost loved one).
2. Hostility directed toward important persons held to blame for present frustrations which, because of guilt, fear or anxiety had become self-directed.
3. An expression of hopelessness and frustration of any betterment in life situation or environment[3].

Suicide has occurred in a wide variety of psychiatric disorders. These include schizophrenia, paranoia, epilepsy, psychoneuroses, (especially obsessive-compulsive and post-traumatic types), alcoholic hallucinosis; de-

*Medical Service, Veterans Administration Center, Togus, Maine

lirium (febrile, cardiac, alcoholic) states, acute panic states, overreactions to despair and frustrations, all make up a large per cent of all suicides. Examples include sexual panic, strong homosexual desires, acute panic over imminent financial, professional or social ruin, feelings of being trapped (blackmailing victims) physical disfigurements or crippling in certain types of personality, first knowledge of incurable or malignant disease[1].

A Consideration of Evidence from Clinical History with Reference To Suicidal Intent

Predicting the possibility of suicide in a particular individual is very difficult but certain manifestations can be helpful in detecting or sensing the latent or active suicidal tendency so that preventive measures can be taken. Oliven[1] has grouped these clues in a practical and effective tabulation based upon the history and physical examination of the patient thus making these helpful clues quickly available as one proceeds in the patient's clinical work-up. The chief complaint will be variable but frequently will be characteristic of severe depression such as insomnia, fatigue, inability to concentrate, lack of appetite, weight loss, or references to suicidal preoccupation. The present illness may contain strong clues to suicidal talk or statements or preoccupation, even actual attempts that failed or were abortive. A suicidal note of farewell is obviously evidence to be taken seriously. Restlessness, loss of interest in usual social routine, diminution in libido are clues that may appear in the history. The past history may reveal one or more limited episodes of depression; likewise a family history of suicide in immediate relatives is important. A thorough study of any previous suicidal attempts will prove of prognostic aid and may help in differentiating a hysterical attempt from a serious one. The method employed tells much. Multiple means (e.g. sleeping tablets with drowning) indicate serious intent, whereas sublethal doses of sedatives or other medicine cabinet drugs usually means a trivial or hysterical attempt. Suicidal attempts which include an attempt to kill others are of serious import.

Likewise, methods of a severely painful nature, slitting throat widely, igniting self, etc. are usually indicative of severe psychopathology. One of our case reports involved burning himself. Serious suicidal intent is often present in cases of attempts made in the presence of other people, although when it seems obvious that the attempt was planned so that someone would discover and prevent it, the act is more likely to have been a hysterical gesture. Some prognostic information can be derived from the patient's reaction after an attempt at suicide has been thwarted. If the patient reacts with anger or disappointment that his act failed, it can be assumed that his intent is serious and further attempts will be made; contrariwise, if the patient expresses relief for his rescue, the prognosis is good against further attempts.

The Physical Examination and the Patient's Actions

Much can be surmised from a study of the patient from these two phases. The physical examination may reveal evidence of previous suicidal attempt not already admitted. This would be traumatic scars for most attempts and the most common is a transverse scar across flexor surface of wrist, and less commonly transverse scars in front of neck. In manic depressive psychoses, physical changes resulting from the lack of sleep and emaciation or weight loss from lack of eating may be found, and along with other evidence, help to establish the severity of any suicidal trend. If the patient has an agitated form of depression, the physical examination may reveal skin irritation locally from constant rubbing or picking movements and in occasional cases, areas of partial loss of hair from scalp where it may have been pulled out in agitated moods. More striking evidence may be seen in the patient's behavior or appearance. In depressions, there are grades of severity from simple retardation through acute depression to depressive stupor. Since suicidal tendency is great in depressions, it is helpful to recognize the more severe degrees of this disorder. In the acute phase, the patient may sit apart, making little or no spontaneous remarks. His attitude is one of great misery and dejection. In depressive stupor, the patient is usually in bed, and evinces no interest in anything except his feeling of everlasting torment and sorrow and because of this the suicidal drive is great. Neglected personal appearance and untidy behavior go with these states; and such actions, in a patient previously known to be careful of his appearance should make the examiner suspicious of a severe depression developing.

The Patient's Remarks and Thoughts as a Source of Evidence for Suicidal Drives

It is here that indications of suicidal intent are most naturally found and the examiner will do well to investigate the aspects thoroughly. Patients with depressions, or who develop unfounded feelings of self-accusation (over some feeling of guilt in their past) are most likely subjects for suicidal thoughts or fantasies. Their suffering is intense even if there exists no logical reason for it, and they become submersed in deeper morbid thoughts of suicide. If in addition, the patient has experienced a dramatic or tragic death of a parent, sibling or mate (especially when a parent or sibling is involved, if this was experienced in the preadolescent phase of his childhood) then there is a predisposition, approximately twice as intense, toward suicide, as would be so in normal people. This has been referred to as the "death trend"[3]. This early death had in varying ways interrupted the normal emotional development of the child so that in later adult years, when intense inner conflict may arise, the attempt to solve it seems to precipitate suicidal fantasies and attempts, as the misdirected means of solving such

TABLE I — DEATHS BY SUICIDE

Diagnosis	a. *Reason for Act* b. *Special Suicidal factors*	a. *Risk Evaluation* b. *Previous Attempt*	*Suicide Act* *Present Attempt, Date, Time, Circumstance*	*General Comment*
Psychosis with organic Brain Disease, Convulsive and Personality Disorders. Age — 48	a. Patient disappointed that family did not take him home for a trial visit. b. Epilepsy. Mother died at patient's age of dementia praecox. Mother's sister was a suicide.	a. Serious. Had planned this for some time apparently. Was quiet and read a lot. b. None	1949 at 6 p.m. by hanging and strangulation by a camisole strap from the lock on the bars of the window screen. Pajama string also used.	Linen Room unlocked. Patient apparently seized opportunity to get a strap for his attempt.
Schizophrenic reaction, Paranoid type. Chronic Alcoholism. Age — 32	a. Delusional depression. b. Father died when patient was young. Mother committed to State Hospital at patient's age of 6.	a. Grave risk. Talked of death on several occasions. "Voices" told him to kill. Strong repeated references to suicide. Yes — Rammed head against courtyard wall sustaining skull fracture.	1950 at 3:30 p.m. While on Ward 10, patient jumped out of a toilet window. This was same day he had been assigned to NP mess hall detail. Basal skull fracture cause of death. Toilet screen had been pushed open.	Guarding patient for remaining on detail. Patient wandered off NP Mess Hall area and appeared next on a distant ward on 5th story. Insufficient detention screens on windows.
Pulmonary Tuberculosis, bilateral, active, far advanced. Self inflicted stab wound, left chest with perforation of lung, pericardium and heart. Age — 55	"Nervous Breakdown." Weight loss 23 lbs. Chronic user of sedatives at night. A "chronic worrier." Insomnia due to "thinking and thinking." Actively hallucinated. Saw wife outside his room — later said wife had "died."	a. Serious. Hallucinations about wife being dead. Asked to see Priest 4 days before. Insomnia prominent. b. None.	1957 at 2:15 a.m. Suicide by stabbing with scissors in left chest, over heart, 7 wounds over left thorax. Pathology — Hemopericardium. Penetrating wound of heart. Talked with Chaplain 4 hours earlier.	Patient had a toxic psychosis. Was given Equanil® originally — later barbiturates substituted. This was considered subsequently as a possible tendency to prolong a depressed mood. Also use of Isoniazid with barbiturates, might increase any toxic reactions.
Schizophrenic Reaction, chronic, severe, unclassified. Chronic alcoholism. Burns, 80% body surface. Age — 48	Very nervous. Felt unworthy and depressed. Worried about people calling him a homosexual. One week before act had offered to donate 1 of his eyes to a blind person. No suspicion of depression apparent.	a. "Serious" risk. Auditory hallucinations. Delusions of being punished (massacred) for his sins. b. Yes — Slit throat with razor day before admission. Once tried to shoot self and wife.	1949 while on his detail in print shop and momentarily alone, patient became ignited all over by a gasoline fire and died from the extensive burns. This was considered to be self-ignited.	

TABLE II — SUICIDAL ATTEMPTS WITHOUT DEATH

Diagnosis	a. *Reason for Act* b. *Special Suicidal Factors*	a. *Risk Evaluation* b. *Previous Attempt*	*Present Attempt, Date, Time Circumstance*	*General Comment*
Manic Depressive Reaction, depressed type, severe. Homosexual trend. Age — 45	a. Had suicidal ideas from guilt of stealing money, *done by a brother.* b. 1 brother was a suicide.	a. Serious risk. b. None.	1953 cut wrist with glass from lens of spectacles. Bleeding profuse.	Glasses were allowed with usual precautions.
Schizophrenic Reaction, catatonic type with depressive features. Age — 27	Expressed suicide tendencies many times. Very depressed.	a. Serious. b. None.	1953 Patient working in dining room, NP ward at noontime. Ran deliberately into a radiator butting his head, causing 6-inch laceration of scalp.	Attempt was made impulsively and could not have been foreseen.
Schizophrenic reaction, chronic, severe, undifferentiated type. Alcoholism. Age — 30	Strong guilt feelings and conflict of religion and his acts.	a. Serious. b. 2-3 attempts to slash both wrists, from 1948 in U.S. Army.	Cut wrists with glass.	Attempts were made impulsively on each occasion.
Alcoholism. Laceration, left wrist.	Despondent over health? Father was a suicide. Denies any further intent now.	a. Uncertain risk. Apparently did not intend to do real harm. b. None.	1957 at 2 a.m. Slashed left wrist with razor blade. *Then sent for help.* This was at his home.	None recognizable. Possibly a hysterical gesture?

problems. Thus, dreams in which the patient finds death as a means of gratification, such as joining a loved one already dead, are an indication of deep suicidal intent[7]. Delusions of persecution or great guilt may lead to suicide in an attempt at atonement and reinstatement in the eyes of someone else. A depressed patient who asks that certain means of self-destruction (e.g. knives, guns, etc.) be removed from his environment for fear of his using them, should obviously be taken seriously and have his wishes granted.

It is considered a wise procedure to ask patients directly what their thoughts are about suicide, when the physician becomes aware of suicidal tendencies, and there is not felt to be any danger of putting the idea in the patient's mind. No one else should be present when this is asked and it is a better technique to ask the question in a friendly but business-like manner. The responses will serve as valuable clues. A qualified denial is reassuring; a plain "no" is not enough. A hedging reply is equivalent to an implied admission. Defiant admissions are more difficult to interpret but had best be accepted as evidence of serious intent. An answer revealing hopelessness, or self-accusation is of serious portent. A response which is an angry or indignant outburst may be considered as indicating a serious degree of intent. In general, usually the patient struggling with suicidal drives has a lengthy period of time before his final decision is made and the examiner should not be misled by the apparent lessening of a suicidal tendency since these impulses wax and wane in intensity.

Selected Case Studies

Table I contains analytical data about 4 deaths by suicide and Table II, another 4 cases of attempted suicide of such magnitude as to make them more than a trivial attempt or hysterical gesture. These are included to illustrate certain points in the foregoing sections of this paper regarding early indications and clues of the suicidal intent and preventive measures.

Case 1 illustrates a long developing depression over indifference or unwillingness of patient's family to take him home on a trial visit. Attendants had observed patient reading books (dictionary) and material of a technical nature prior to the suicidal act and this seemed different than his usual behavior. While there were no outspoken remarks on suicidal intent the despondency was the most obvious clue. The timing of the act was at a time when the ward was at the evening meal and he could make the attempt without detection. This bespeaks careful planning and premeditation, and any evidence of intent during this phase was not recognized.

Case 2 would seem to deserve a "grave risk" rating as to suicidal intent. His thoughts were expressed with reference to suicide and death. Auditory hallucinations told him to "kill." He had made a previous attempt at suicide by a cruel method and this would indicate a dangerous psychopathology.

Case 3. This patient had definite indications of a depressed mood (insomnia), along with a past history of a "nervous breakdown." He later developed hallucinations about the death of his wife. Although he was recognized as showing acute and increasing psychotic manifestations, the suicidal intent was not obvious beyond these findings.

Case 4. This patient would be rated as a serious risk. He had several clues to suicidal drive, i.e. depression symptoms, previous attempt at homicide and suicide, also another suicidal attempt, and one week before, had offered to donate one of his eyes to a blind person. Closer questioning on this request did not disclose any self-destructive tendencies.

Cases 5, 6, 7, and 8 made attempts but were unsuccessful. The Table II indicates them to be definite risks, with the exception of case No. 7 which had some features of a hysterical gesture. However, the laceration was extensive enough to classify as more than a trivial gesture.

Conclusions

It has been said that few suicides occur without preceding early manifestations of mental agitation or disease[1]. An old clinical belief has been that real suicidal patients do not reveal their intent and their death brings the first knowledge of such an intent. However, it seems to this writer that a large per cent of suicides do show one or more manifestations of a deep drive for self-destruction. That these signs are not always obvious means only that the physician must be more alert to the various abnormal ways in which these patients behave, talk and to the interpretation of events in the present and past history.

References

1. Oliven, J. F.: The Suicidal Risk. N. E. J. Med. Vol. 245, No. 13, P. 448.
2. Zilboorg, G.: Arch. Neurol. and Psychiat. 35:270.
   Zilboorg, G.: Amer. J. Psychiat. 92:1347.
   Zilboorg, G.: Am. J. Orthopsychiat. 7:15.
3. Moss, L. M. and Hamilton, D. M.: Psychotherapy of the Suicidal Patient. Amer. J. Psychiat. 112:814.
4. Menninger, K.: Psychoanalytical Aspects of Suicide. Int. Journ. Psychoanalysis. XIV:381, 1933.
5. Waxberg, J. D.: Study of Attempted Suicides in Psychotic Patients. A Dynamic Concept. Psychiatric Quarterly 30:464.
6. Jackson, D. D. in Schneidman, E. S. and Farberow, N. L. ed. Clues to Suicide, New York. The Blakiston Division, The McGraw-Hill Book Co., Inc. 1957.
7. Hendin, H.: Suicide. Psychiatric Quarterly 30:268, 1956.

The National Health Survey has found in a preliminary study that 25 million persons in the country were injured badly enough in the second half of 1957 to require medical attention or to limit their activities for at least a day. Home accidents led the cause of injuries, 40.3 per cent; work accidents, 16.7 per cent; motor accidents, 9.8 per cent and others (including violence), 33.1 per cent.

Clinical Experience With The SGO-Transaminase Test In Myocardial Infarction*

M. A. Chapin, M.D.**

In this age of an increasing number of different laboratory tests in clinical medicine any new test requires evaluation not only in terms of precision in confirming a diagnosis, but also in terms of practical economics and concern for rising hospital costs.

Patients with acute anterior chest pain frequently furnish the physician with the most trying diagnostic problem of medical practice. Because of its potential importance, myocardial infarction has to be considered first in the list of differential diagnoses. If the patient has had preceding angina pectoris and if the classic signs and symptoms are present, the diagnosis of coronary occlusion with myocardial infarction may be evident. Many patients, however, will not have this history and textbook picture as an easy explanation of the episode. Such other conditions as pulmonary embolus, spontaneous pneumothorax, pericarditis, mediastinal emphysema, various acute upper abdominal conditions, etc., may simulate acute coronary artery disease and have to be excluded as possibilities in each case. The difficulties encountered in deriving the precise diagnosis is emphasized in the medical literature which is replete with instances of pulmonary infarction mistaken for myocardial infarction or of pericarditis misdiagnosed as myocardial infarction, etc.[1] Elevation of temperature, drop in blood pressure, changes in the rate and rhythm of the heart, leukocytosis, elevation of the sedimentation rate or C-reactive protein, are helpful but nonspecific findings.

The electrocardiogram with one or more tracings in series has been the most important laboratory procedure to indicate or verify myocardial damage. Its lack of infallibility in this condition, however, is well known[2]. Even if we exclude the obvious but sometimes grievous problem of proper interpretation of the tracing, experience has shown this method to have certain drawbacks: (1) It may take 3 to 10 or more days for typical changes of acute myocardial infarction to appear in serial tracings. (2) If the person has had previous coronary disease, acute changes in the tracings may be obscured or they may be reversed by the pattern of opposite heart side involvement. (3) When bundle branch block, the Wolff-Parkinson-White syndrome, atrial fibrillation and the paroxysmal arrhythmias are present, the changes due to acute myocardial infarction may not be obvious. (4) Many older people have abnormal electrocardiograms anyway, or are taking digitalis, features which add to the difficulties in proper interpretation of the tracings. Thus, while the demonstration of typical electrocardiographic changes has been the most pathognomonic sign obtainable for proof of acute myocardial infarction, there are frequent occasions when it is of little help. The cardiologist then requests repeated serial tracings with the hope that delayed changes may appear and thus be of aid in the diagnosis. Much time may be lost in this way, appropriate treatment may be delayed, and the patient may well sense the indecision apparent in those responsible for his care.

There is great need for additional tests to corroborate the clinical and electrocardiographic findings in acute myocardial infarction and any new test of aid in making this diagnosis assumes great importance. Within the last four years, several enzyme and metallo-enzyme tests of potential aid in this direction have been described[3, 4]. It is the purpose of this paper to describe some experience with one of these, serum glutamic oxalacetic transaminase, labelled SGO-T for purposes of brevity, from its application in a series of patients with acute myocardial infarction studied in this hospital during the past year.

Present Knowledge About SGO-T

This enzyme is present in all body tissues but is concentrated to the greatest extent in certain organs[5]:

Heart	320,000 units/gm.
Skeletal muscle	210,000 units/gm.
Liver	200,000 units/gm.
Kidney	43,000 units/gm.

Its average serum concentration is between 5-40

*This study was supported by a grant from the Maine Heart Association

**Department of Medicine, Central Maine General Hospital, Lewiston, Maine

units/ml[3,5]. Its pathway of excretion from the body appears to be via the liver and gastrointestinal tract, explaining its increases in the serum in diseases of the liver and in obstructive biliary tract disorders. Present evidence indicates that when an area of heart muscle is acutely deprived of its blood supply, this enzyme is liberated into the blood where it is found in increased serum concentrations for a period of 1-7 days, until the excess is excreted through the liver. The increased serum level of SGO-T during this period of time is therefore an index of damage to the heart muscle and the demonstration of a rise and fall of its activity in serum serves as good presumptive evidence of heart muscle damage.

Not only is its increased concentration in the serum an indicator of myocardial infarction in instances of acute chest pain but the extent and duration of its increase may be an indirect index of the size of the infarct. Animal experiments[6] have shown that when 5-10 per cent of the heart is infarcted, the SGO-T level rises to an average of 100 units/ml. and remains above the normal of 40 units/ml. for 1-2 days; when 20 per cent of the heart is infarcted it rises to an average of 300 units/ml. and remains above the normal level for 2-4 days; when 50 per cent of the heart is infarcted, the level rises to an average of 700 units/ml. and remains above the normal for 3-7 days.

The specific action of SGO-T results in the interchange of the alpha amino group of aspartic acid for the keto group of alpha ketoglutaric acid and the formation of glutamic and oxalacetic acids:

COOH		COOH		COOH		COOH
CH_2		CH_2		CH_2		CH_2
CH_2	+	$CHNH_2$	$\rightleftarrows$	CH_2	+	C=O
C=O		COOH		$CHNH_2$		COOH
COOH				COOH		
Alpha keto glutaric acid		Aspartic acid		Glutamic acid		Oxalacetic acid

The method of Cobaud, Leeper and Wroblewski[7] for the determination of SGO-T activity has been used in this hospital. In this method, which has been found satisfactory by other investigators, the reagents are added in excess and the oxalacetate formed is converted to pyruvate by aniline citrate; the dinitrophenylhydrazone addition product with pyruvate is then formed and when dissolved in toluene and treated with strong alkali, develops a color. The intensity of the color is proportional to the amount of pyruvate present, which, in turn, is proportional to the level of SGO-T activity. This method measures the end-product of the transamination reaction, and 1 mg./ml. of pyruvate=1 unit SGO-T activity.

The enzyme is stable in serum for 3 days at room temperature and for 1 month if refrigerated[5]. Thus, clear non-hemolyzed serum, carefully separated from the clot and taken at any time without regard for meals, medications, or other known factors, may be mailed to a distance for the determination if it cannot be accomplished in a local laboratory. The initial serum should be obtained shortly after onset of chest pain and serial samples taken every 8 hours for 3 days. The rise in enzyme activity begins shortly after acute myocardial infarction, usually within 6-12 hours, reaches a peak within 12-30 hours, and is commonly back within the normal range of 5-40 units/ml. in 3-6 days. The early rise in SGO-T activity may thus be the first objective sign that myocardial infarction has occurred, since it may precede definite or even suggestive electrocardiographic changes[8].

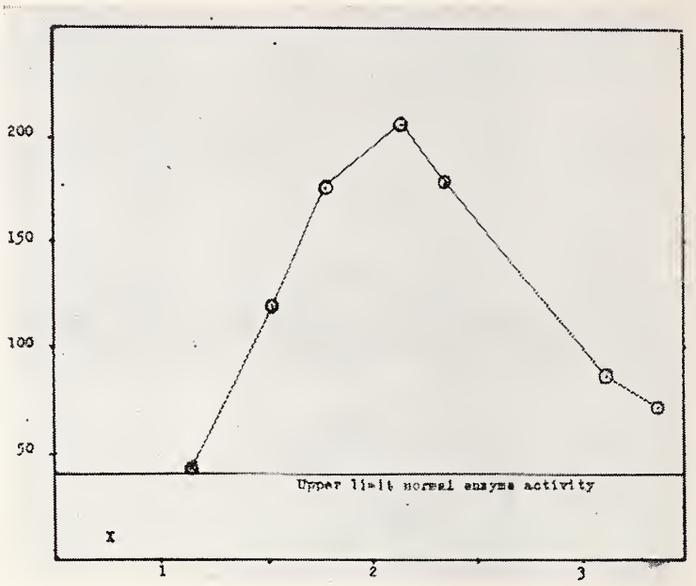


FIGURE 1. Typical curve of SGO-T activity after myocardial infarction.

RESULTS

Serum activity of this enzyme has been followed for 2-6 days in 54 instances of acute myocardial infarction. The peak rise of activity within 12-30 hours after the acute attacks was 2 to 25 times the normal in 53 of these. The one instance in which normal activity was found represented an instance of recurrent intermittent pain over a period of 3 days, culminating in an infarct later detectable by means of the electrocardiogram; the SGO-T activity was determined during the second and third days of pain, during which time it remained within normal limits and unfortunately was not followed for a longer interval; it is probable that had additional tests been done, an abnormal rise in activity would have been detected. The electrocardiogram became abnormal 6 days after cessation of chest pain in this particular instance.

The curve of SGO-T activity in a typical instance of acute myocardial infarction is shown in Figure 1. In this patient, the rise in enzyme activity indicated the diagnosis by the second hospital day; electrocardiographic changes showing the infarct appeared in the

TABLE I.

SUMMARY OF TRANSAMINASE LEVELS

Diagnosis	*Total No. Cases*	*Transaminase Levels*		
		Normal	*Borderline*	*High*
Acute myocardial infarction	54	1	2	51
ECG diagnostic	45	1	2	42
ECG not diagnostic	9	0	0	9
Autopsy evidence	3	0	0	3
Clinical evidence	6	0	0	6
Anginal syndrome	12	11	1	0
Cardiac arrhythmias	6	6	0	0
Acute pulmonary edema	4	3	1	0
Chronic congestive failure	7	7	0	0
Pulmonary infarction	4	3	1	0
Hepatitis, infectious	3	0	0	3
Infectious mononucleosis	2	1	1	0
Cirrhosis	4	1	3	0
Biliary obstruction	4	0	0	4
Pancreatitis	1	0	0	1
Cerebral vascular accidents	6	6	0	0
Uremia	3	3	0	0
Metastatic carcinoma of liver	1	0	1	0
Pneumonia	2	2	0	0
Normal	15	15 (3 to 34 units)		

second tracing taken 3 days later. Clinically, this was a case of moderately severe myocardial infarction and the serum enzyme activity rose to slightly over 200 units/ml. The majority of cases in this series gave rises to levels of 75-150 units/ml.

Table I lists the findings in 83 instances of cardiac disease which were followed by both the SGO-T test and electrocardiograms. Fifty-four of these represented acute myocardial infarction, diagnosed by typical clinical features and/or electrocardiographic changes. Of the 54, 51 had high SGO-T peak levels of activity, ranging between 60-250 units/ml.; two were borderline with peak of activity between 40-50 units/ml., but each of these had shown both a rise and fall in activity; the one instance in which normal SGO-T activity was found has been discussed above. The electrocardiogram was diagnostic in 45 of this series of 54 patients. The three instances of borderline and normal SGO-T activity noted above showed typical electrocardiographic changes of acute myocardial infarction. All nine instances of clinically suspected myocardial infarction in whom typical electrocardiographic changes of infarction failed to appear, had elevated SGO-T activity, and 3 of these were confirmed by autopsy.

In 12 patients with severe angina pectoris and acute coronary insufficiency the SGO-T activity was normal in 11 and borderline in one, emphasizing the value of this test in the presence of transient electrocardiographic changes. The test was also normal in 6 instances of paroxysmal arrhythmias as well as in 3 of the 4 instances of acute pulmonary edema. Of the latter, the one exception showed increased but borderline activity coincident with an abnormal but non-diagnostic electrocardiogram, and autopsy confirmation was not permitted.

Three of the 4 instances of typical pulmonary infarction showed normal SGO-T activity indicating the potential value of the test in the differential diagnosis with acute myocardial infarction. The one instance in which it showed increased activity occurred in a person who lived but 20 hours after hospital admission and was found at autopsy to have both an acute myocardial infarction with an early mural thrombus in addition to the pulmonary infarct.

Of much interest has been the study of the instances of acute myocardial infarction in which the electrocardiogram was not diagnostic but which were corroborated by means of the SGO-T test. This group of 9 cases (16 per cent of the total) are described in brief detail because they represent those with previous myocardial involvement and with heart block or arrhythmias precluding the definite electrocardiographic interpretation of subsequent acute heart muscle damage.

Case #1. D.B., a 65-year-old retired policeman with known past history of rheumatic heart disease with atrial fibrillation controlled with maintenance doses of digitalis leaf and of a recent transitory stroke suggestive of a small cerebral embolus, was admitted to the hospital 8-19-57 with acute pleuritic pain in the right chest, cough, hemoptysis and fever. There was satisfactory recovery from this acute pulmonary infarct with dicu-

marol therapy and prothrombin times were maintained between 18 and 25 per cent activity. SGO-T tests were within normal range during the first three days of this episode of pulmonary infarction. On 9-13-57, 4 days after ambulation had begun, there was sudden onset of vise-like, anterior substernal chest pain, associated with sweating and hypotension. Narcotics were required for relief of the pain which lasted for 2 hours. A localized pericardial friction rub was clearly audible the next day, proving the occurrence of an anterior myocardial infarct. There was subsequent good recovery from this episode.

The SGO-T findings for this attack were: 9-13-57, 20 units/ml., 9-14-57, 120, 117, 116 units/ml., and 9-15-57, 82, 72, 57 units/ml. The electrocardiogram showed atrial fibrillation with rate of 124/min., small Q waves in leads 1, 2, AVL and V_6, depression of ST segments in leads $V_{3,4,5}$, and inversion of T waves in leads 1, 2, AVL, V_5 and V_6, with greatest inversion in V_5. These changes were interpreted as (1) atrial fibrillation and (2) coronary heart disease with myocardial damage, anterior type.

Note: In this patient with an initial episode of chest pain due to pulmonary infarction and normal SGO-T levels, recurrent chest pain occurred 3 weeks later even though the controlled anticoagulant effect of dicumarol was continued. Elevated SGO-T activity in the serum the next day verified this attack as an episode of acute myocardial infarction rather than a second pulmonary infarction, and the curve of enzyme activity in the serum during the next 2 days was typical of this event. The electrocardiogram taken 3 days after the attack could be interpreted only as showing anterior myocardial damage.

Case #2. A. L., a 66-year-old retired mill worker, was admitted to the hospital 8-14-57 with severe crushing pain across the anterior chest and pain in both arms of 6 hours' duration. There was a past history of a coronary occlusion, following which he had had angina pectoris on exertion. The blood pressure was 140/100 and the pulse 106/min. The heart was enlarged to the left, the rhythm was grossly irregular, a harsh apical and precordial systolic murmur was audible, there was both pulmonary and peripheral edema, and he was markedly orthopneic and dyspneic. In spite of adequate therapy there was no response and he died 8-22-57. Two electrocardiograms, taken 8-15-57 and 8-19-57, showed atrial fibrillation, ventricular premature beats, right bundle branch block and a question of cor pulmonale. The SGO-T findings were: 8-15-57, 233, 217, 210 units/ml., 8-16-57, 185, 133, 152 units/ml., 8-17-57, 160, 163, 175 units/ml.

Note: Although necropsy confirmation could not be obtained in this case, it seemed clear on clinical grounds that this man had had a massive myocardial infarct causing irreversible cardiac shock and death. The serum transaminase values were quite high, indicating extensive myocardial necrosis, and although falling somewhat during the second day after chest pain had occurred, were again elevated on the third day, reflecting the clinical impression of a poor prognosis. Secondary rises in SGO-T activity of this nature are believed to represent extension of the infarct. The 2 electrocardiograms were not of help in confirming the diagnosis in this case.

Case #3. A. L., a 63-year-old farmer, was admitted to the hospital 8-14-57 with anterior substernal chest pain radiating into the left arm of 4 hours' duration. He had had a previous admission to the hospital, 7-6-56, with similar symptoms and was treated for an evident mild anterior myocardial infarct. His blood pressure was 120/84 and pulse 90. The heart was moderately enlarged to the left, the rhythm was regular, there were no murmurs and there were no signs of congestive heart failure. He continued to have mild recurrences of this pain over a period of 5 days but was asymptomatic for the remainder of his hospital stay. An electrocardiogram taken 8-16-57, showed low QRS complexes in all limb and chest leads but was otherwise similar to his last tracing taken 7-12-56. It was interpreted as showing diffuse myocardial impairment with a question as to pericardial effusion, myxedema, or some wide-spread systemic disease being possible causes for the low complexes. Results of the SGO-T tests were: 8-15-57, 13, 17, 31 units/ml., 8-16-57, 47, 40, 32 units/ml., and 8-17-57, 20, 13, 12 units/ml.

Note: This patient illustrates the difficulties encountered in the interpretation of electrocardiograms once myocardial damage is already present and the result of earlier myocardial infarction. The diagnosis seemed obvious clinically on the basis of the type, radiation and duration of the pain and was verified by the rise and fall in the serum transaminase levels. Even though the latter rose nearly 400 per cent above the base level, the low borderline curve obtained from the serial tests suggested minimal damage.

Case #4. J. K., a 90-year-old male, was admitted to the hospital 7-20-57 with severe substernal chest pain of 18 hours' duration. He had had known angina pectoris for at least 8 months. He was acutely ill, dyspneic and orthopneic, with cold clammy skin, a blood pressure of 92/70 and pulse of 110/min. The heart sounds were barely audible, neck veins were quite distended and moist rales were present in both lungs. His blood pressure and pulse were unobtainable within 6 hours and death occurred 7-21-57. The electrocardiogram taken 7-20-57 showed atrial fibrillation, left ventricular hypertrophy and intraventricular heart block. Results of SGO-T tests were: 7-20-57, 107, 130, 130 units/ml., and 7-21-57, 130 units/ml.

Note: Although necropsy confirmation of cause of death was again not obtained, there was no doubt in the minds of those caring for this patient that he had had an extensive myocardial infarction. The electro-

cardiogram was of no help in verification of the clinical diagnosis whereas the first serum transaminase test quickly proved it. In addition, the elevated and rising levels of transaminase activity indicated extensive myocardial necrosis.

Case #5. B. P., a 76-year-old female diabetic, was admitted to the hospital with severe substernal pain of 6 hours' duration. This pain radiated into the neck and left arm and was accompanied by faintness, weakness and sweating. The blood pressure was 102/60 and the pulse 106/min. The skin was cold and sweaty, there was marked cyanosis of lips and finger nail beds, the heart was enlarged to the left with systolic murmurs at the apex and base, and there was fairly marked bilateral pulmonary edema. Her vital signs quickly deteriorated with shock-state appearing 1 day later and death occurred 6-2-57, 2 days after admission. The electrocardiogram of 6-1-57 showed regular sinus rhythm of rate 78, left axis deviation, a deep Q_3, depressed ST segments in leads 1, AVL, $V_{2,3,4,5,6}$, and low T waves in limb and AV leads. Comparison with a previous tracing taken 3-20-56 showed only the development of the Q_3 at this time. This tracing was interpreted as showing coronary heart disease and a question of a recent myocardial infarct, posterior in type. The SGO-T tests showed: 5-31-57, 66 units/ml., 6-1-57, 120, 133, 120 units/ml., and 6-2-57, 70 units/ml.

Note: This is yet another illustration of the fact that previous myocardial disease makes the electrocardiographic interpretation of new and acute changes difficult or impossible. A similar condition existed in the case just discussed. Corroboration of the new infarct was possible through the finding of definite SGO-T elevation.

Case #6. A. T., an 83-year-old female, was admitted to the hospital 4-18-57 with severe epigastric pain radiating upward into the chest of 8 hours' duration, and with a history of having had this same pain transiently for the past 3 months, associated with exertion or anxiety. The blood pressure was 90/50 and the pulse 66/min. The skin was cold and clammy and the facies ashen. The heart sounds were quite faint and barely audible, moist inspiratory rales were audible throughout both lung fields and there were no definite abdominal findings. Death occurred 36 hours after admission. The electrocardiogram of 4-19-57 showed a complete atrio-ventricular block and right bundle branch block and was interpreted as showing coronary insufficiency with a question of digitalis effect. The SGO-T tests of 4-19-57 were 187 and 275 units/ml.

Note: This case illustrates the difficulties usually encountered in the interpretation of the electrocardiographic tracing when heart block or conduction impairment is present. The severe and extensive myocardial infarction later confirmed by autopsy examination showed no electrocardiographic changes that could be interpreted positively. This is another instance in which the acute myocardial necrosis could not be confirmed by the usual electrocardiogram but was definitely indicated within hours by the high and rising serum transaminase activity.

Case #7. S. H., an 84-year-old male with a past history of a previous coronary occlusion, was admitted to the hospital 3-4-57 with a carbuncle of the neck requiring incision and drainage and eventual skin grafting. On 4-17-57, there was onset of chills, fever, renal tenderness and pyuria; Proteus bacillus infection in the urinary tract was disclosed and appropriate treatment given. On 4-20-57, sudden severe respiratory distress occurred and he was found to have acute pulmonary edema, hypotension and a shock state which lasted for 12 hours. Both urine and blood cultures grew out Proteus organisms. In this acutely ill man, the differential diagnoses ranged from septicemia, pulmonary embolus, acute congestive heart failure to a possible myocardial infarction. Serial electrocardiograms gave the following information: 4-20-57, sinus tachycardia with occasional ventricular extrasystoles, rate 133/min., left axis deviation; ST segments low in leads 1, 2, 3, and AVL, and depressed in $V_{3,4,5}$, low voltage in limb and AV leads. This tracing was interpreted as showing a sinus tachycardia, digitalis effect and myocardial impairment. On 4-22-57, and S_2 and Q_3 was present, ST segments were depressed in leads 1, 2, AVL and $V_{4,5,6}$, but elevated in leads AVR and $V_{1,2}$. This tracing was interpreted as showing an atrial paroxysmal tachycardia with ventricular rate of 205, left axis deviation, and coronary insufficiency. On 5-6-57 (17 days after the episode), showed a regular sinus rhythm of rate 90/min., left axis deviation, the T waves tended to be more upright in leads $V_{3,4,5,6}$ than in the last tracing. This tracing was interpreted: "Evolution of myocardial infarction is suggested by these changes *and the history as given.*" The SGO-T tests gave the following values: 4-20-57, 45, 80, 96 units/ml., 4-21-57, 62 and 70 units/ml.

Note: This is a good illustration of the clinical difficulties encountered in the attempt to define the cause of sudden pulmonary edema and clinical shock. Serial ECGs were of no help, while the serum transaminase test permitted the diagnosis to be made promptly.

Case #8. E. B., a 72-year-old man with an indistinct history of previous chest pain suggesting angina pectoris, was admitted to the hospital 4-13-57 because of severe substernal pain which had occurred 48 hours earlier and was persistent. The blood pressure was 120/70 and the pulse 40/min. The skin was cold and clammy and there was cyanosis of lips and finger nail beds. The heart was somewhat enlarged to the left, the sounds were distant and muffled, and there was some bilateral pulmonary edema. His initial electrocardio-

gram, 4-13-57, showed sinus arrhythmia, rate 64/min. and a normal axis. A repeat tracing, 4-18-57, showed regular sinus rhythm, rate 72/min., PR interval of 0.29 sec., first degree AV block and coronary insufficiency. The SGO-T tests obtained 4-13-57 (two days after onset of pain) were 52, 45 and 23 units/ml.

Note: This patient was admitted to the hospital 2 days after onset of acute substernal pain due, clinically, to an undoubted myocardial infarct, which was confined by the slightly elevated, but dropping, SGO-T determinations accomplished during the third day after pain onset. The 2 electrocardiograms did not reflect the myocardial damage.

Case #9. E. H., a 55-year-old housewife with a 6 year history of repeated fainting spells and attacks of substernal pain radiating into the arms, and on whom a series of electrocardiograms taken during this period of time had shown progressive changes thought to represent 1 or more myocardial infarcts, was admitted to the hospital 3-7-57 with recurrent substernal chest pain and sweating of 4 hours' duration. She appeared ill and anxious. The blood pressure was 130/70 and the pulse 100/min. The heart sounds were normal and there were no murmurs. The interpretations of 4 serial electrocardiograms were: 3-8-57, myocardial ischemia and digitalis effect; 3-11-57, no changes from last tracing to warrant diagnosis of myocardial infarction; 3-16-57, T waves in V leads returning to upright suggests improvement in myocardial efficiency; 3-25-57, myocardial ischemia. Results of the SGO-T tests were: 3-7-57, 105 units/ml., 3-8-57, 98, 98, 40 units/ml., and 3-9-57, 10 units/ml.

Note: In this patient who had had angina pectoris for 6 years and 1 or more coronary occlusions during this period of time, the clinical diagnosis of an acute myocardial infarct could not be made by 4 serial electrocardiograms, even though the diagnosis seemed evident and was confirmed by the elevated serum transaminase tests on the first hospital day.

Discussion

More and more methods for enzyme assay are beginning to appear in clinical chemistry. Recent developments in clinical research have shown that some enzymes may be found in increased concentration in the serum after acute necrosis of certain tissue cells has occurred. Since certain enzymes may be concentrated in certain organs, the finding of an increased serum concentration of those enzymes reflects acute disease of the organ involved. While, in one respect, this is not a new idea because we have been using serum enzyme tests such as lipase and amylase in pancreatic disease for many years, it is new to our realization that diseases of other organs such as the heart may be similarly studied. Actually, in the last few years much progress in our knowledge of some enzymes present in high concentration in heart muscle has been made. Five such enzymes have been identified and studied: glutamic oxalacetic transaminase, hexose isomerase, lactic dehydrogenase, malic dehydrogenase, and aldolase. Of these, the SGO-T test has probably had the widest application as an adjunct in the diagnosis of acute myocardial infarction as well as in diseases of the liver.

The results reported here confirm the reports of others concerning the value of SGO-T determinations in the diagnosis of acute myocardial infarction. Its use may permit an earlier confirmation of the clinical diagnosis than is obtainable by means of the electrocardiogram. When serial tests are accomplished over a period of three days after myocardial infarction has occurred, the height and duration of serum rise in the enzyme concentration gives some idea of the extent and therefore of the severity of the infarction. Since it is not increased in other cardiac or pulmonary diseases which clinically may simulate acute myocardial infarction and which frequently cause electrocardiographic changes complicating proper interpretation, the SGO-T test gives valuable information of aid in eliminating these as possible causes. Of equal importance has been the finding that it has confirmed the clinical diagnosis in instances when the electrocardiogram was not of help. This added value of the test has been noted by Chinsky and co-workers[9] who studied 400 patients with various diagnoses including 117 with acute myocardial infarctions. Of the latter, 92 per cent had elevated serum transaminase values. Of 84 cases with diagnoses confirmed by electrocardiograms, 79 whose sera were drawn during the optimal time after onset (6 to 12 hours) showed abnormal values. In 1 other the rise, though only slightly above normal, proved to be 350 per cent higher than this patient's usual concentration. Of the 33 in whom a clinical diagnosis was made without electrocardiographic confirmation, all but 3 had elevated transaminase values, and in these the sera were not obtained optimally after onset of pain. These authors found that mortality rates tended to correlate with the height of transaminase rise in that values over 200 units gave a poor prognosis.

In this age of an increasing number of different laboratory tests in clinical medicine any new test requires evaluation not only in terms of precision in confirming a diagnosis, but also in terms of practical economics and concern for rising hospital costs. Since the patient with an acute myocardial infarction usually requires 3-6 weeks of hospitalization, anticoagulant therapy with frequent testing of bleeding or prothrombin times, usually more than 1 electrocardiogram, as well as other procedures increasing his total hospital expense, it is important to evaluate the serum transaminase test in terms of its peculiar advantages and attempt to determine the instances in which its use will be justified. It is obviously not necessary to order it as a routine test in all instances of acute myocardial infarction. Actually, on most occasions, the clinical picture of typical crushing substernal pain is sufficient for the clinical diagnosis to

be verified by an electrocardiogram after an interval of 3-4 days when the diagnostic changes are most likely to be present in the tracing. There are times, however, as emphasized by the results of this study, when the electrocardiogram is of little or no help in confirmation of the clinical diagnosis. This was true in 16 per cent, or 1 out of every 6 patients studied in this series. Emphasis of this fact, actually long known to cardiologists, should not be misinterpreted as an attempt to minimize the value of the electrocardiogram. The long use of this test has substantiated its value. As with any laboratory test, it has certain failings and this is one of them. Since the serum transaminase test, optimally obtained after onset of chest pain, is not similarly influenced, it would seem to be particularly indicated in the following conditions:

1. In older people with a clinical diagnosis of acute myocardial infarction, since this group tends to have abnormal electrocardiograms as a rule, and may have forms of heart block or previous myocardial damage.
2. In persons with acute chest pain who have had previous coronary damage, since they may already have abnormal electrocardiograms.
3. In persons with acute chest pain who have tachycardias, arrhythmias or various forms of heart block.
4. In instances when coronary insufficiency is suspected, since these may show electrocardiographic changes while the SGO-T test remains normal.
5. In instances of atypical chest pain as an aid in ruling out pulmonary infarction and various other cardiac, pulmonary or acute upper abdominal conditions. Pulmonary infarction may cause changes in the electrocardiogram indistinguishable from myocardial infarction.
6. In persons who have recurrent chest pain during the convalescence from myocardial infarction.

Summary

1. SGO-T activity has been found to be diagnostically elevated in 53 of 54 cases of acute myocardial infarction. It was not elevated in small groups of such other cardiac conditions as angina pectoris, coronary insufficiency, congestive heart failure, arrhythmias or acute pulmonary edema.

2. Sixteen per cent, or 9 of the 54 cases of acute myocardial infarction, had serial electrocardiograms which were abnormal but not diagnostic of the acute attack. All of these had increased SGO-T activity reflecting the episode.

3. The serum transaminase test should be used when there is a history of previous myocardial damage, when heart block or arrhythmias are present, when there is recurrent chest pain during convalescence from acute myocardial infarction, and when the chest pain is atypical or there is a differential diagnosis of pulmonary infarction or other causes of chest or upper abdominal pain.

References

1. Levine, S. A. and Vazifdar, J. P.: Confusion Between Acute Infarction and Acute Pulmonary Embolism, Clarified by Autopsy Months After Death: An Important Medico-Legal Problem, Am. J. Med. Sci., 222, 623-627, 1951.
2. Friedbery, C. K.: Diseases Of The Heart, 2nd. Ed., Philadelphia and London, W. B. Saunders Co., 1956, page 522.
3. LaDue, J. S., Wroblewski, F. and Nydick, I.: Serum Glutamic Oxalacetic Transaminase Activity as an Index of Acute Myocardial Damage, Mod. Concepts Cardiovas. Dis., 25, 333, 1956.
4. Adelstein, S. J., Coombs, T. L. and Vallee, B. L.: Metalloenzymes and Myocardial Infarction, N. E. J. Med., 255, 105, 1956.
5. Mason, J. H. and Wroblewski, F.: Serum Glutamic Oxalacetic Transaminase Activity in Experimental and Disease States, A. M. A. Arch. Int. Med., 99, 245-252, 1957.
6. Agress, C. M., Jacobs, H. I., Glassner, H. F., Lederer, M. A., Clark, W. G., Wroblewski, F., Karmen, A. and LaDue, J. S.: Serum Transaminase Levels in Experimental Myocardial Infarction, Circulation, 11, 711, 1955.
7. Cobaud, P., Leeper, R. and Wroblewski, F.: Transaminase, Manual of Methods, Coleman Instrument Co.
8. Goldner, F., Jr.: A Review of the Transamination Reaction and its Relationship to Acute Myocardial Infarction, Am. Practitioner, 8, 1041-1045, 1957.
9. Chinsky, M., Schmagranoff, G. and Sherry, S.: Serum Transaminase Activity, J. Lab. and Clin. Med., 47, 108, 1956.



The Achievements of Arist

...in Skin Diseases: In a study of 26 patients with severe dermatoses, ARISTOCORT was proved to have potent anti-inflammatory and antipruritic properties, even at a dosage only ⅔ that of prednisone[1]... Striking affinity for skin and tremendous potency in controlling skin disease, including 50 cases of psoriasis, of which over 60% were reported as *markedly improved*[2]...absence of serious side effects specifically noted.[1, 2, 3]

...in Rheumatoid Arthritis: Impressive therapeutic effect in most cases of a group of 89 patients[4]... 6 mg. of ARISTOCORT corresponded in effect to 10 mg. of prednisone daily (in addition, gastric ulcer which developed during prednisone therapy in 2 cases disappeared during ARISTOCORT therapy).[5]

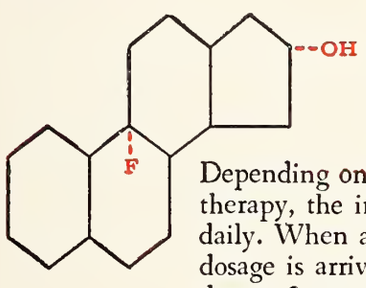
1. Rein, C. R., Fleischmajer, R., and Rosenthal, A. L.: J. A. M. A. *165*:1821, (Dec 7) 1957.
2. Shelley, W. B., and Pillsbury, D. M.: Personal Communication.
3. Sherwood, A., and Cooke, R. A.: Personal Communication.
4. Freyberg, R. H., Berntsen, C. A., and Hellman, L.: Paper presented at International Congress on Rheumatic Diseases, Toronto, June 25, 1957.
5. Hartung, E. F.: Personal Communication.
6. Schwartz, E.: Personal Communication.
7. Sherwood, A., and Cooke, R. A.: J. Allergy 28:97, 1957.
8. Hellman, L., Zumoff, B., Kretshmer, N., and Kramer, B.: Paper presented at Nephrosis Conference, Bethesda, Md., Oct. 26, 1957.
9. Ibid.: Personal Communication.
10. Barach, A. L.: Personal Communication.
11. Segal, M. S.: Personal Communication.
12. Cooke, R. A.: Personal Communication.
13. Dubois, E. L.: Personal Communication.

ocort®

Triamcinolone LEDERLE

...in Respiratory Allergies: "Good to excellent" results in 29 of 30 patients with chronic intractable bronchial asthma at an average daily dosage of only 7 mg.[6]... Average dosage of 6 mg. daily to control asthma and 2 to 6 mg. to control allergic rhinitis in a group of 42 patients, with an actual reduction of blood pressure in 12 of these.[7]

...in Other Conditions: Two failures, 4 partial remissions and 8 cases with complete disappearance of abnormal chemical findings lead to characterization of ARISTOCORT as possibly the most desirable steroid to date in treatment of the nephrotic syndrome.[8,9]... Prompt decrease in the cyanosis and dyspnea of pulmonary emphysema and fibrosis, with marked improvement in patients refractory to prednisone.[10,11,12]... Favorable response reported for 25 of 28 cases of disseminated lupus erythematosus.[13]



Depending on the acuteness and severity of the disease under therapy, the initial dosage of ARISTOCORT is usually from 8 to 20 mg. daily. When acute manifestations have subsided, maintenance dosage is arrived at gradually, usually by reducing the total daily dosage 2 mg. every 3 days until the smallest dosage has been reached which will suppress symptoms.

Comparative studies of patients changed to ARISTOCORT from prednisone indicate a dosage of ARISTOCORT lower by about ⅓ in rheumatoid arthritis, by ⅓ in allergic rhinitis and bronchial asthma, and by ⅓ to ½ in inflammatory and allergic skin diseases. With ARISTOCORT, no precautions are necessary in regard to dietary restriction of sodium or supplementation with potassium.

ARISTOCORT is available in 2 mg. scored tablets (pink), bottles of 30; and 4 mg. scored tablets (white), bottles of 30 and 100.

Lederle LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

Ataractic Therapy Of Hyperactive, Mentally Retarded Patients

PETER W. BOWMAN, M.D.* AND EDUARD BLUMBERG, M.D.**

The management of hyperactive, mentally retarded patients has constituted an ever-present and often serious problem in our institutions for the mentally retarded. Especially troublesome is the destructive and aggressive, sometimes self-aggressive juvenile severe retardate who is inaccessible to reasoning, incapable of comprehension and judgment, constantly active, and who exposes to accidents employees and other patients, particularly elderly ones. For these patients, restraining agents have always been essential and, in past years, have consisted of strait-jackets, seclusion and, to some extent, sedatives. With the introduction of ataractic drugs, it was hoped that the treatment of hyperactivity in such patients could be vastly improved. Early studies gave rise to optimism which, unfortunately, was somewhat too strong.[1]

In a fairly extensive, controlled study involving chlorpromazine therapy,[2] Bowman *et al.*, came to the conclusion that this drug was not well tolerated by the severely retarded, brain-injured patient, and frequently resulted in excessive drowsiness. It was concluded that additional clinical experimentation with other compounds was indicated.

METHOD

We selected 52 patients varying in age from 8 to 75 years; their average age was 29 years. The average duration of hospitalization was 13 years. According to appropriate psychometric evaluations* 40 patients had intelligence quotients of less than 30; five between 30 and 40; and seven over 40. Although all the patients were nursing management problems generally, those with higher intelligence were afforded interviews with the attending physician as need and occasion arose. Some of these patients demonstrated features resembling psychotic and psychoneurotic symptoms.

The drug chosen for study was prochlorperazine, initially given at low oral doses of 15 to 20 mg. daily. As the treatment progressed, the dosage was modified and stabilized according to the individual needs and response of the patients. Frequently, this became a dosage of 25 mg. b.i.d. or t.i.d. One patient received more than 100 mg. daily. Duration of the study ranged from 4 to 44 weeks with an average of 36 weeks. After optimum treatment levels had been established, the dosage has been kept constant and constitutes, at this time, a fairly permanent form of therapy.

Twenty-nine of our 52 patients had been treated with other ataractic agents, chiefly chlorpromazine,[2] but in spite of occasional and temporary success no previously used drug had provided effective and lasting control of aggressive behavior without inducing considerable drowsiness.

RESULTS

Improvement was judged by changes in psychomotor activity, in awareness of people and objects in the environment, and in social integration, including changes in play patterns. Results with prochlorperazine therapy were classified *excellent* when there was, during treatment, complete remission of destructiveness and resistance to authority, when the patient's disposition improved so that he co-operated in performing routine chores, and when the patients seemed well-adjusted. Three patients (5.7 per cent) obtained excellent results.

Results were called *good* when there was evidence of a marked and prolonged ataractic effect, so that the patient was active but reasonably co-operative, responded reasonably well to the demands of the daily routine, and showed decreased evidence of emotional tension; 37 patients (71 per cent) obtained good results; thirty of these had intelligence quotients below 30.

Results were called *fair* when the patient was unsettled but not hyperactive, when he was temperamental, irritable, and indifferent or was slightly anxious, tense and apprehensive. Nine patients (17.3 per cent) obtained fair results with the drug.

Results were called *poor* when the patient continued to be highly agitated and destructive, complained habitually, was abusive and uncooperative, and continued to show signs of extreme anxiety; three patients (5.7 per cent) obtained poor results with the drug.

One patient (44 years old) who obtained excellent results with prochlorperazine had been camisoled for

*Medical Superintendent, Pineland Hospital and Training Center, Pownal, Maine

**Senior Physician, Pineland Hospital and Training Center, Pownal, Maine

*These tests, selected according to the patient, were used to evaluate intelligence: Stanford-Binet, Wechsler Adult Intelligence Scale, Vineland, House-Tree-Person, Goodenough, Raven, Porteous, Columbia, Bender, and Stick and Cube.

more than five years. Previous drug therapy had not provided effective restraint, and she had been one of the most acute management problems at the Institution. After four weeks of treatment with a daily dosage of 30 to 75 mg. of prochlorperazine, she was able to sit quietly, walk around without restriction, and even take an active part in occupational therapy. Another patient (17 years old), an epileptic psychotic with an I.Q. of 65, also improved markedly on 10 mg. t.i.d. given for over a year. Her art work became more harmonious in design and more elaborate in detail and color. This patient felt she would be poisoned by touching other patients or by intake of certain foodstuffs. She was in constant fear of sudden death. These ideas have completely disappeared shortly after she was started on prochlorperazine medication, and have not recurred.

A comparison with previous drug therapy showed that prochlorperazine was always at least as effective as chlorpromazine; at least eight patients obtained superior results with prochlorperazine, and none were made drowsy.

For the most part, side effects were minor. Six patients showed extrapyramidal symptoms with unsteady gait and tremor of the upper extremities and head, but in only one patient could the symptoms be classified as similar to those of Parkinson's disease. All patients recovered from these neurological symptoms within two or three days after discontinuation of the drug or after reduction of dosage. (The appearance of extrapyramidal symptoms seems to be related to individual tolerance.) One patient (25 years of age) showed tremor of fingers and drooling while taking only 20 mg. Another patient showed similar signs after 45 mg. of prochlorperazine daily. About 2 hours after receiving a dose of 25 mg., one patient (21 years old) collapsed on the playground with cyanosis and a weak rapid pulse. Electro-cardiogram, chest x-ray, and blood chemistry were found normal, and she recovered completely within two days after the drug was discontinued. Whether prochlorperazine is to be implicated is not known. The work of Krumperman[3] would indicate that significant hypotension cannot be attributed to the drug.

Patients treated with prochlorperazine *became quieter*, slept better, and gained weight. Daily behavior records showed a striking absence of destructiveness, aggression, hyperkinetic activity, abusiveness, and apprehension. Patients obviously became more manageable without showing signs of sedation. Their general disposition was improved by treatment, and their attention span increased.

In decreasing hyperactivity and aggression, prochlorperazine made patients more amendable to other therapeutic procedures such as individual interviews and occupational therapy and daily routines. Diffuse or "free floating" anxiety was reduced, and the majority of the *patients became quieter*, more cheerful, and more relaxed. That they experienced relief from excessive tension and anxiety was reflected distinctly in their art and fantasy productions. Our experience demonstrates that successful ataractic therapy can play an important role in the proper management of the retarded, disturbed and aggressive patient. In our study we found prochlorperazine to be superior to other ataractic drugs previously used in the management of hyperactive, severely retarded patients.

Summary

The ataractic drug, prochlorperazine, was used to treat destructive and aggressive tendencies in 52 mentally retarded patients. Treated at daily maintenance dosages of 50 to 75 mg. over an average of 36 weeks, 77 per cent of the patients obtained excellent or good results and 17 per cent, fair results. Five per cent of the patients failed to benefit. Side effects — mild extrapyramidal symptoms — were minimal in seven patients and subsided when the dosage was reduced. Patients treated with prochlorperazine became quieter, slept better, and gained weight. There was a striking absence of destructiveness, aggression, hyperkinetic activity, abusiveness, and apprehension, and the drug made patients more amenable to other therapy and routine.

References

1. Bair, H. V. and Herold, W.: Efficacy of Chlorpromazine in hyperactive, mentally retarded children. *Arch. Neurol. and Psych.* 74(4):363-4, Oct. 1955.
2. Bowman, P. W., Bower, W. C., and Ferguson, B. S.: A Comprehensive Treatment Program in Mental Retardation, The Pineland Hospital Bulletin on Mental Retardation, May 1957, Vol. 1:1, 15-45.
3. Krumperman, L. W., *et al.* Prochlorperazine in Anesthesiology. Scientific exhibit, A. M. A. Clinical Meeting, Philadelphia (December 3-6, 1957).

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D.	Togus	Fourth District, JAMES E. POULIN, M.D.	Waterville
Second District, WALDO A. CLAPP, M.D.	Lewiston	Fifth District, MARCUS A. TORREY, M.D.	Ellsworth
Third District, RALPH P. EARLE, M.D.	Vinalhaven	Sixth District, RICHARD C. WADSWORTH, M.D.	Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville PEARL R. FISHER, R.N., Waterville

Across The Desk

Doctors as Contributors

"Professional fund raisers estimate that doctors give ten to twelve per cent of the total amount donated in hospital drives" writes Dr. John C. Kinzly, in Medical Economics . . . "a Modern Hospital estimate is even higher: 20 per cent. Such statistics . . . should be enough to scotch the myth that medical men don't adequately support the hospitals."

Medical Economics quotes study by Will, Folsom, and Smith, Inc., stating:

"In twenty-one recent hospital fund-raising campaigns, 1,830 staff physicians made individual contributions, as follows:

" 1 per cent contributed $10,000 or more
" 5 per cent contributed $5,000 to $9,999
"12 per cent contributed $2,400 to $4,999
"31 per cent contributed $1,000 to $2,399
"51 per cent contributed less than $1,000."

Federal Government Puts on Another Muzzle

The federal government recently applied another muzzle, this time to utilities which have been fighting public power propagandists.

The Internal Revenue Service announced rulings disallowing anti-public power advertising as a deductible business expense.

Who will be next?

One utility official, commenting on the rulings, said tax-paying, investor-owned utilities should be allowed to use advertising to meet any competitor, even when that competitor is the federal government. Moreover, he said, the cost of such advertising should be deductible as an ordinary business expense.

Labor Health Conferees Berate AMA, Free Choice

Critics of organized medicine seized the chance to fire broadsides when they met in Washington in June under aegis of the American Labor Health Association. A lawyer, a hospital trustee and a few socio-economists, joined more than a dozen physicians on the speaking program in deprecating "free choice" of medical services, emphasizing shortcomings of voluntary prepayment plans and stating their views on measures required to protect quality of health care.

AMA responded quickly to charges made on the first day of the conference by Dr. Warren F. Draper, executive medical officer of UMWA Welfare and Retirement Fund. For the best interest of patients, the Fund will never return to free choice, he said. AMA Manager F. J. L. Blasingame issued a statement charging "medical interests of the miner and his family have been subordinated to the financial interests of the Fund."

Various speakers urged that Blue Cross and Blue Shield begin concerning themselves with *quality* of care, not simply its cost; proposed campaigns to educate public and doctors alike on relative merits of free choice and physician selection, and suggested legislation to prohibit hospitals' excluding doctors who participate in consumer-sponsored health plans.

Organized labor's medical service plans were not without critics, among their own supporters. Dr. George Baehr, father of New York's attacked and defended Health Insurance Plan, censured union health centers for their uncoordinated expansion and — in many instances — overly lavish physical appointments.

Dr. Morris Brand, president of ALHA, shared the conference chairmanship with Miss Josephine Roche, director-trustee of UMWA Welfare and Retirement Fund. Basil O'Connor, head of NFIP, gave keynote talk. Attendance was well over 500.

Nonpolio Viruses Found to Cause Paralysis

The development of paralytic disease after the individual has received polio vaccine doesn't necessarily mean the vaccine failed.

The disease may have been caused by a virus other than a polio virus, a recent University of Pittsburgh study has shown.

Two properties heretofore believed to be unique for polio viruses — the ability to produce paralytic disease manifestations and the ability to produce similar antibody responses in the body — were found to be shared by ECHO and Coxsackie viruses.

The study made by a group headed by Dr. William McD. Hammon, is reported in the June 7 Journal of the American Medical Association.

They explained that polio, Coxsackie, and ECHO viruses are all enteroviruses, which have many properties in common, including the ability to multiply in the human gastrointestinal tract with or without producing disease.

Disease, when it does occur, most frequently involves the central nervous system. Polio viruses have been believed to be the only ones to cause paralysis. ECHO and Coxsackie viruses have been associated with aseptic meningitis.

In their study, the researchers found that six cases of paralytic disease originally diagnosed as polio were probably caused by Coxsackie and ECHO viruses. These viruses, but no polio viruses, were isolated from the affected patients. The cases occurred during the 1952 field trials of gamma globulin as a polio preventive. Three were considered as gamma globulin failures, the authors said.

Whether the enteroviruses isolated in the six cases were the respective causative agents is not unequivocably established, they said. However, they were isolated during the acute phase of illness, and in the past, the demonstration of a polio virus infection during the acute phase has been accepted as diagnostic.

In addition to the six cases of paralytic disease, the researchers studied ten cases of aseptic meningitis and a group of normal individuals for the antigen-antibody response produced by the enteroviruses. They found that Coxsackie and ECHO viruses have an antigenic constitution similar to that of polio viruses.

On the basis of their study, the researchers said that in certain situations, the Coxsackie and ECHO viruses may produce disease similar to polio. These situations would be a combination of the unusually rapid spread of the viruses in the body and/or unusual susceptibility of the human.

"We feel that these six cases are examples of occasional paralytic illness caused by a nonpoliomyelitis enterovirus," they said.

Because of the possibility of believing such illness to result from vaccine failure, paralytic or nonparalytic poliomyelitis-like disease must be carefully studied for its cause.

Dr. Hammon's associates in the study were David S. Yohn, Ph.D., Ernest H. Ludwig, Ph.D., Rose A. Pavia, B.S., Gladys E. Sather, M.P.H. and Lambert W. McCloskey, M.S.

Power Mower Safety Rules Listed in Today's Health

Power mowers are labor-saving tools, but they can be "deadly machines," as shown by a rising accident rate involving operators and bystanders.

Some rules for safe use of power mowers were outlined in the June Today's Health, published by the American Medical Association.

Dennis Orphan, associate editor of the magazine, said a two-year Georgia study showed 737 power lawn mower accidents resulting in 794 injuries. Of the injuries, 69.6 per cent were caused by direct contact with the mower, and 30.4 per cent by objects thrown by the mower.

"Most power mower accidents are due to carelessness," Orphan said. "The most common accident happens when operators attempt to start machines. They ignore safe procedures by starting the machine with one or both feet under the back or side of the machine.

"The second most common accident occurs when the operator mows on a hill or incline. He loses his footing and the machine rolls back over his feet."

He also pointed out that a four-cycle engine turning a 20-inch blade at 3000 revolutions a minute can pick up a nail or stone and hurl it 170 miles per hour.

Thus power mower owners should develop " a healthy respect" for their machines and learn how to use them correctly.

Some rules, listed by Orphan, for safe operation of mowers are:

—Clear the yard of all rocks, stones, nails, bones, wires, sticks and other debris before you start.

—When you start the mower, keep your feet in a safe position away from the blades.

—Know how to disengage the clutch or how to stop the engine quickly in case of emergency.

—Store gasoline in an approved, tightly-sealed container in a safe place, and refuel the engine only when it is cool.

—Never work on the machine when the motor is running.

—Tip the mower by applying pressure on the handles. Never reach underneath and risk losing a finger.

—When mowing on rough terrain, set the blades high to prevent debris from being ejected from the mower.

—Keep your hands, feet, and loose clothing away from any moving part of the machine.

—Make sure the electric mower has a ground wire, and don't use it when it's wet or when it's raining unless the machine and cord are in perfect condition.

—Don't leave the mower unattended when the motor is running and keep bystanders and pets away from the mowing area.

—Don't let the mower pull you. To maintain control, slow it down. Never run or trot.

—Don't cut up and down on hills. If you slip, the machine may slide over your toes. Cut sideways.

—Never remove anything from the mower until you are certain the blades have stopped.

Tax Rulings on Travel Costs and Sick Pay

Internal Revenue Code of 1954 (Sec. 213) authorizes deduction of expenses of transportation which is "primarily for and essential to medical care." Differences of opinion arise frequently, however, as to allowability of transportation costs in particular.

A recent ruling by Internal Revenue Service (Rev. Rul. 58-110) sheds new light on its interpretation of Sec. 213. In this case, the central figure was an elderly taxpayer suffering from heart disease. His physician prescribed a change of climate and recommended that a nurse accompany the patient. Inquiry was made as to whether travel expenses of patient and nurse were deductible.

IRS ruled affirmatively, based on finding that "the taxpayer made the trip on the advice of his doctor in order to alleviate specific chronic ailments and to escape unfavorable climatic conditions which have proven injurious to the health of the taxpayer."

Another IRS ruling concerns taxability of reduced wages paid to school teachers who are granted leave to regain their health. In the specific case on which the agency ruled, leave was granted on recommendation of the attending physician and with concurrence of the school system's medical director.

It was held that the reduced payments in lieu of salary constitute a wage continuation plan and that sums received under such plan may be excluded from gross income.

Army to Use New Polyvalent Flu Vaccine

During next October, all active duty Army personnel will be vaccinated with a new polyvalent influenza vaccine that protects against Asian, swine, A, A-prime and B strains. Vaccine also will be administered to all Army personnel who go on active duty up to August 1, 1959, including those in training for 30 days or more. Overseas, military dependents and civilian employees of the services and their dependents also will be treated. Dosages will be a single cc. injected subcutaneously for all over 13 years of age and two subcutaneous doses of half a cc. each at intervals of one week for those six through 12.

Seven Drug Firms Contract for Cancer Drug Tests

Public Health Service has approved eight contracts with seven pharmaceutical houses for production or testing of chemical agents of possible use against cancer. The contracts, totaling $1,898,258, bring to $3.5 million the value of agreements which PHS has entered into with ten drug firms. Latest awards are to Merck (two projects), Schering, Armour, Pitman-Moore, Bristol, Upjohn and Parke, Davis.

DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Major Impairments of Recipients of Aid to the Disabled March, 1958

VANCE G. SPRINGER, *Director*
Division of Research and Statistics

In the three year period, April, 1955 to March, 1958, the aid to disabled program has had a steady and rapid growth. In March, 1958 a total of 1,246 persons were being assisted under this program.

In the three year period a total of 3,258 applications for assistance were received, of which 1,694 were granted assistance, 958 were denied assistance, and 227 were disposed of because of death of the applicant, voluntary withdrawal, or other reasons. At the end of March, 379 applications were pending final disposition.

Of the 958 cases denied assistance, 732 or 76 per cent either did not meet the requirement of total and permanent disability, or did not file a doctor's statement. A total of 108 applicants died before their application was processed.

Of the 430 cases that have been closed during the life of the program, 181 or 42 per cent died, and an additional 70 cases have reached the maximum age of 65, and, in most instances, have been transferred to old-age assistance.

Age and Sex of Recipients

In March, 1958 about three out of five (60.1 per cent) recipients were men. The proportion of recipients who are women has been increasing steadily, being 33 per cent in December, 1955, 38.4 per cent in December, 1956 and 39.9 per cent in March, 1958.

As shown in the table below proportionally more women are found in the age group under 35 and 35-44, while men predominate in the age group 45-55. An equal proportion of men and women are in the age group 55-64.

Major Impairments of Recipients

In March, 1958 the three leading causes of total and permanent disability of recipients were diseases of the heart, mental deficiency and arthritis. A comparison with data as of December, 1956 shows that cases of mental deficiency increased from 11.5 per cent to 15.2 per cent. Diseases of the heart increased only slightly, while arthritis as a cause of major impairment showed a decline of nearly two per cent. (See Table II)

Major Impairment and Age

The major impairment of the younger recipients, those under 35 years of age, is heavily weighted with congenital defects. Mental deficiency, cerebral spastic paralysis and congenital malformations accounted for three-fifths of all major impairments for this age group. In contrast, the older recipients were found to be most frequently suffering from degenerative diseases.

Table III ranks the most frequent impairments by age.

Major Impairment by Sex

Nearly one of five women receiving aid to the disabled in March, 1958 were mentally deficient in contrast

	Total		*Men*		*Women*	
Age Group	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	1246	100.0	749	100.0	497	100.0
Under 35	164	13.2	81	10.8	83	16.7
35-44	190	15.2	113	15.1	77	15.5
45-54	343	27.5	225	30.0	118	23.7
55-64	549	44.1	330	44.1	219	44.1

TABLE II

Major impairment	*March, 1958*		*December, 1956*	
	Number	*Per cent*	*Number*	*Per cent*
Total	1246	100.0	791	100.0
Tuberculosis (all forms including arrested tuberculosis)	46	3.7	25	3.2
Other infective and parasitic diseases (including late effects)	65	5.2	47	5.9
Malignant neoplasms	36	2.9	23	2.9
Mental deficiency	190	15.2	91	11.5
Cerebral spastic infantile paralysis	62	5.0	46	5.8
Cerebral accidents	88	7.1	71	9.0
Other diseases of the nervous system and sense organs	108	8.7	82	10.4
Circulatory diseases other than diseases of the heart	32	2.6	21	2.7
Diseases of the heart	223	17.9	139	17.6
Diseases of the respiratory system	61	4.9	40	5.1
Arthritis	145	11.6	106	13.4
Deformities, malformations and diseases of the musculo-skeletal system	77	6.2	42	5.3
Injuries	44	3.5	22	2.8
All other diagnoses	69	5.5	36	4.5

TABLE III

Rank	*Under Age 35*	*Per cent*	*Age 35-54*	*Per cent*	*Age 55-64*	*Per cent*
1	Mental Deficiency	38.4	Mental deficiency	18.2	Arteriosclerotic heart disease	18.6
2	Cerebral spastic paralysis	15.9	Arthritis	11.8	Arthritis	14.2
3	Congenital malformations	6.1	Cerebral paralysis	6.9	Cerebral paralysis	9.3
4	Injuries	4.9	Late effects of poliomyelitis	6.4	Hypertension with heart disease	8.0
5	Epilepsy	4.3	Cerebral spastic paralysis	4.7	Diseases of respiratory system	6.9
6	Osteomyelitis, etc.	4.3	Diseases of respiratory system	3.9	Mental deficiency	5.5
7	Late effect of poliomyelitis	3.7	Arrested tuberculosis	3.8	Neoplasms	3.8
8	Arrested tuberculosis	2.4	Multiple sclerosis	3.4	Injuries	3.5
9	Cerebral paralysis	2.4	Arteriosclerotic heart disease	3.2	Diseases of digestive system	2.4
10	Arthritis	2.4	Hypertension with heart disease	3.2	Arrested tuberculosis	2.2
			Injuries	3.2	Late effects of poliomyelitis	2.2
					Paralysis agitans	2.2

to one out of ten male recipients. Arteriosclerotic heart disease was nearly twice as common among men as women.

Arthritis was the second major impairment for both sexes, and occurred slightly more frequently among women than men. Diseases of the respiratory system, injuries and arrested tuberculosis are found among the ten leading causes of the impairment of men, but are not included in the list for women. Neoplasms, multiple sclerosis and congenital defects are included among the ten major impairments of women, but are not included in the list for men. (See Table IV page 280)

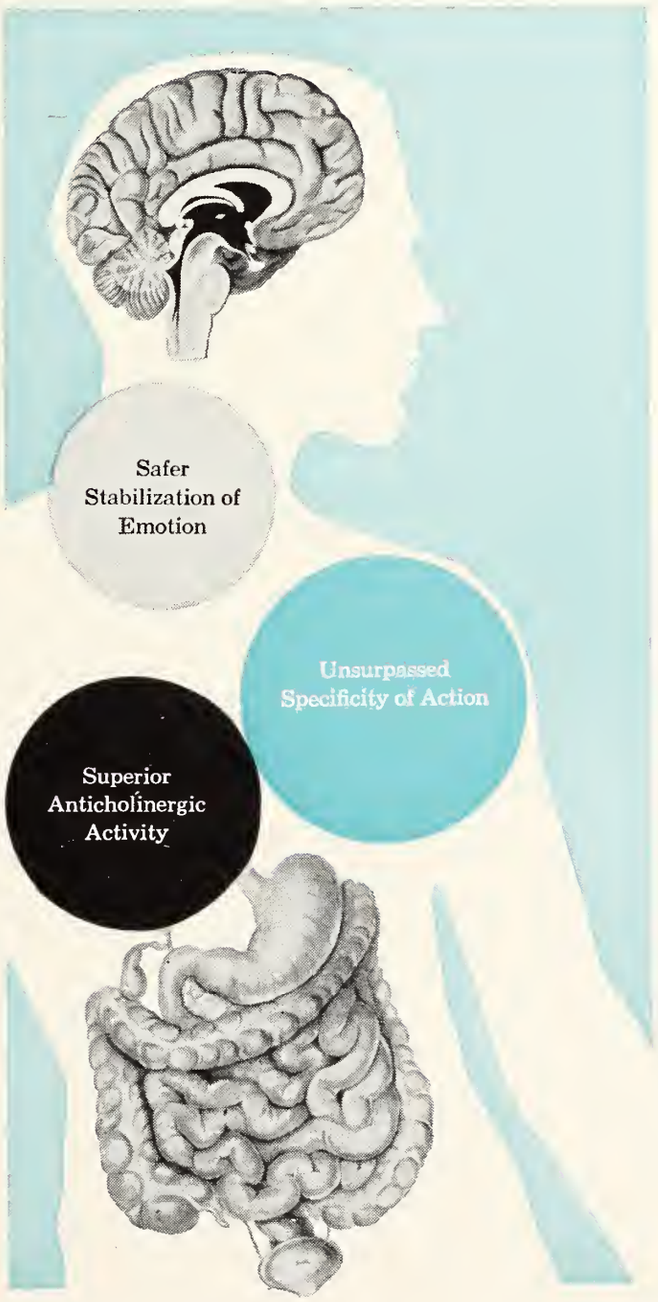
Controls *Stress*

Relieves *Distress* *in smooth muscle spasm*

new

Pro-Banthine® *with* Dartal®

— for positive relief of cholinergic spasm. **— a new and safer agent for normalizing emotions.**



PRO-BANTHINE WITH DARTAL offers you a new, specific and reliable control of visceral motor disorders, especially when these disorders are induced or aggravated by psychic tensions or anxiety.

Pro-Banthine has won wide clinical acceptance as the most effective drug for controlling gastrointestinal hypermotility and hypersecretion.

Dartal, a new phenothiazine congener, offers greater safety, flexibility and effectiveness in stabilizing emotional agitation.

The combination of each drug in fully effective doses in Pro-Banthine with Dartal gives a new means of approach to the medical management of functional gastrointestinal disorders mediated by the parasympathetic nervous system.

Specific Clinical Applications: Functional gastrointestinal disturbances, gastritis, pylorospasm, peptic ulcer, spastic colon (irritable bowel), biliary dyskinesia.

Dosage: One tablet three times a day.

Availability: Aqua-colored tablets containing 15 mg. of Pro-Banthine (brand of propantheline bromide) and 5 mg. of Dartal (brand of thiopropazate dihydrochloride).

G. D. SEARLE & CO., Chicago 80, Illinois.
Research in the Service of Medicine.

SEARLE

TABLE IV

Rank	*Men*	*Per cent*	*Women*	*Per cent*
1	Arteriosclerotic heart disease	11.7	Mental deficiency	22.5
2	Arthritis	11.1	Arthritis	12.5
3	Mental deficiency	10.4	Cerebral paralysis	6.2
4	Cerebral paralysis	7.6	Arteriosclerotic heart disease	6.2
5	Diseases of the respiratory system	7.6	Hypertension with heart disease	6.2
6	Cerebral spastic paralysis	4.5	Cerebral spastic paralysis	5.6
7	Injuries	4.5	Late effects of poliomyelitis	4.0
8	Late effects of poliomyelitis	4.3	Neoplasms	3.4
9	Hypertension with heart disease	4.0	Congenital malformations	3.0
10	Arrested tuberculosis	3.9	Multiple sclerosis	2.4

Single Impairments and Double Impairments

While many recipients were reported to have several impairments, only the primary and secondary diagnosed impairments were recorded. The secondary diagnosis was used only if the impairment was considered to have major or permanent significance by itself, or in combination with the major impairment, to result in permanent and total disability. About 43 per cent of the recipients were found to have two or more major impairments.

Of the 720 recipients with a single impairment about 18 per cent were found to be disabled on the basis of mental deficiency alone. An additional 14 per cent were disabled due to arthritis. Of the 526 recipients with two diagnosed impairments about 13 per cent were disabled because of arteriosclerotic heart disease and at least one other major impairment. Recipients with mental deficiency and a secondary disabling condition accounted for over 11 per cent of recipients with two impairments. Table V shows the 10 most frequent major impairments for each group.

Residual Defects

In addition to the primary and secondary diagnostic classification of impairment, recipients, where indicated, were coded for residual defects. The function of this code is to indicate the residual conditions of a more or less permanent character that remain after disease, injury, or operation or that exists as a congenital defect or as a consequence of such defects.

In some instances items in the International Code of

Continued on page 282

TABLE V

MOST FREQUENT MAJOR IMPAIRMENTS BY NUMBER OF IMPAIRMENTS

Rank	*All recipients*	*Per cent*	*Recipients with single impairment*	*Per cent*	*Recipients with two or more impairments*	*Per cent*
1	Mental deficiency	15.2	Mental deficiency	18.1	Arteriosclerotic heart disease	12.9
2	Arthritis	11.6	Arthritis	13.9	Mental deficiency	11.4
3	Arteriosclerotic heart disease	9.6	Arteriosclerotic heart disease	7.1	Arthritis	8.6
4	Cerebral paralysis	7.1	Cerebral paralysis	6.9	Hypertension with heart disease	7.4
5	Cerebral spastic paralysis	5.0	Late effects of poliomyelitis	5.1	Diseases of respiratory system	6.5
6	Hypertension with heart disease	4.9	Cerebral spastic paralysis	4.9	Cerebral paralysis	6.3
7	Diseases of respiratory system	4.9	Osteomyelitis, etc.	4.2	Cerebral spastic paralysis	5.1
8	Late effects of poliomyelitis	4.2	Injuries	4.0	Neoplasms	3.2
9	Injuries	3.5	Diseases of respiratory system	3.8	Late effects of poliomyelitis	2.9
10	Arrested tuberculosis	3.1	Multiple sclerosis	3.8	Injuries	2.9

AGE AND SEX OF RECIPIENTS, BY MAJOR IMPAIRMENT, MARCH, 1958

Major impairment	All recipients	MALE AGE GROUP Total	Under 35	35-44	45-54	55-64	FEMALE AGE GROUP Total	35	35-44	45-54	55-64
Total	1246	749	81	113	225	330	497	83	77	118	219
Arrested tuberculosis	36	29	3	5	13	8	7	1	1	1	4
Other tuberculosis	10	7	0	2	4	1	3	2	1	0	0
Syphilis and its sequelae	13	8	0	3	0	5	5	1	1	1	2
Late effects of poliomyelitis and encephalitis	52	32	4	2	19	7	20	2	4	9	5
Neoplasms	36	19	1	1	7	10	17	1	2	3	11
Diabetes	14	6	1	0	2	2	8	0	0	2	6
Other allergies, endocrine system, metabolic & nutritional disorders	17	7	1	1	4	1	10	2	3	4	1
Anemia	4	3	0	0	0	3	1	0	1	0	0
Mental deficiency	190	78	25	19	20	14	112	38	35	23	16
Multiple sclerosis	28	16	2	6	5	3	12	2	4	3	3
Other inflamatory diseases of central nervous system	8	3	0	0	2	1	5	0	1	3	1
Paralysis agitans	23	12	0	2	5	5	11	0	1	3	7
Cerebral spastic infantile paralysis	62	34	14	13	3	4	28	12	6	3	7
Cerebral paralysis	88	57	0	7	16	34	31	0	2	12	17
Epilepsy	17	8	3	1	2	2	9	4	1	1	3
Other diseases of the central nervous system	23	14	1	2	5	6	9	3	4	2	0
Diseases of nerves, peripheral ganglia, and sense organs	9	7	1	1	3	2	2	0	0	0	2
Chronic rheumatic heart disease	24	14	2	3	5	4	10	0	1	5	4
Arteriosclerotic heart disease	119	88	0	1	14	73	31	0	0	2	29
Chronic endocarditis and other myocardial degeneration	9	6	0	0	1	5	3	0	0	0	3
Other heart diseases	10	7	0	1	4	2	3	0	0	0	3
Hypertension with heart disease	61	30	0	1	11	18	31	0	0	5	26
Hypertension without mention of heart	7	3	0	0	1	2	4	0	0	2	2
Other diseases of arteries	18	16	1	1	6	8	2	0	1	0	1
Diseases of veins and other diseases of circulatory system	7	3	0	1	0	2	4	0	0	1	3
Diseases of respiratory system	61	57	2	5	14	36	4	0	1	1	2
Diseases of digestive system	17	10	0	1	5	4	7	0	1	0	6
Diseases of genito-urinary system	10	3	1	0	1	1	7	1	0	2	4
Diseases of skin and cellular tissues	3	2	0	0	2	0	1	1	0	0	0
Arthritis	145	83	1	11	30	41	62	3	4	18	37
Deformities	19	16	2	3	7	4	3	1	0	0	2
Osteomyelitis and other diseases of musculoskeletal system	32	22	6	6	5	5	10	1	1	4	4
Congenital malformations	26	11	3	4	4	0	15	7	1	4	3
Symptoms, senility and ill defined conditions	4	4	0	2	0	2	0	0	0	0	0
Injuries	44	34	7	8	5	14	10	1	0	4	5

Diseases, Injuries and Causes of Death indicate residual defects. Where this indication is adequate, no residual defect code is needed.

About 53 per cent of all recipients were found to have residual defects. The most common residual defect was paralysis as a result of cerebral accidents, birth injuries, late effects of poliomyelitis, accidents, etc. Limitation of motion was the second most common residual defect, followed by ankylosis and absence of a limb. The following table shows type and frequency of residual defects.

Residual defects	*Recipients* *Number*	*Per cent*
Total	664	100.0
Ankylosis, total	58	8.7
Shoulder joint	1	0.1
Elbow joint	1	0.1
Lower extremity, two or more joints	6	0.9
Hip joint, one or both	5	0.8
Knee joint, one or both	10	1.5
An upper and lower extremity	1	0.1
All extremities	25	3.8
Two lower and one upper extremity	1	0.1
All other single or multiple sites	8	1.2
Blindness	3	0.4
Limitation of motion, total	193	29.1
Both upper extremities	4	0.6
Shoulder joints, one or both	2	0.3
Both hands	4	0.6
Lower extremities, two or more joints	8	1.2
Lower extremities, both	51	7.7
Hip joints, one or both	7	1.1
Knee joints, one or both	11	1.7
Ankle joint, one	1	0.1
Feet, two or more joints	1	0.1
An upper and lower extremity	5	0.8
Two lower and one upper extremity	4	0.6
All extremities	67	10.1
Sacroiliac joint	2	0.3
All other single or multiple sites	26	3.9
Contractures	12	1.8
Shortening of extremities	6	0.9
Disfigurements		
Kyphosis	12	1.8
All other	9	1.4
Deafness	5	0.7
Speech defects	4	0.6
Mental retardation	23	3.5
Absence or loss of limb, total	43	6.5
Upper extremity, right	1	0.1
Upper extremity, forearm, one or both	6	0.9
Hand or wrist	1	0.1
One or more fingers	3	0.5
Lower extremity, between hip and knee, one or both	15	2.3
Leg at knee, one or both	5	0.7
One upper and one lower extremity	3	0.5
All extremities, partial or total	1	0.1
Lower extremities, both, location not specified	3	0.5
All other single or multiple sites	5	0.7
Malunion of fractures	4	0.6
Nonunion of fractures	6	0.9
Paralysis, total	286	43.1
Upper and lower extremity, one	112	16.9
Upper and lower extremity, both	42	6.3
Upper extremity, one or both	11	1.7
Lower extremity, one or both	82	12.3
Both lower extremities, part of trunk	25	3.8
All other single or multiple sites	14	2.1

Maine Medical Association

STANDING COMMITTEES — 1958-1959

Standing Committees for 1958-1959 as proposed by the Nominating Committee and approved by the Second Meeting of the House of Delegates of the Maine Medical Association at Rockland, Maine, June 22, 1958.

Nominating Committee

1st District, ALBERT ARANSON, M.D., Portland
2nd District, RALPH A. GOODWIN, SR., M.D., Auburn, Chairman
3rd District, JOHN F. DOUGHERTY, M.D., Bath
4th District, GEORGE L. TEMPLE, M.D., Belfast
5th District, JAMES H. CROWE, M.D., Ellsworth
6th District, LEONARD G. MIRAGLIUOLO, M.D., Bangor

Scientific Committee

Richard H. Dennis, M.D., 33 College Ave., Waterville (1 yr.) — Chairman
Daniel R. Shields, M.D., 369 Main St., Lewiston (2 yrs.)
John A. Woodcock, M.D., 35 Second St., Bangor (3 yrs.)

Committee on Medical Education and Hospitals

Charles F. Branch, M.D., Central Maine General Hospital, Lewiston (3 yrs.) — Chairman
Lawrence M. Weed, M.D., 489 State St., Bangor (3 yrs.)
Paul H. Pfeiffer, M.D., 14 Gilman St., Waterville (2 yrs.)
William L. MacVane, Jr., M.D., 211 State St., Portland (2 yrs.)
Richard C. Wadsworth, M.D., 489 State St., Bangor (1 yr.)

Medical Advisory Committee

Thomas A. Martin, M.D., 203 State St., Portland — Chairman
Gerald H. Donahue, M.D., 4 Station St., Presque Isle
Philip L. Gray, M.D., Blue Hill
C. Harold Jameson, M.D., Medical Arts Building, Rockland
George L. Maltby, M.D., 31 Bramhall St., Portland
James M. Parker, M.D., 18 Bramhall St., Portland
Clement S. Dwyer, M.D., 205 French St., Bangor
The Secretary — ex officio

Public Relations Committee

Donald F. Marshall, M.D., 142 High St., Portland (2 yrs.) — Chairman
William E. Dionne, M.D., 109 Main St., Springvale (3 yrs.)
Robert J. Barrett, Jr., M.D., 209 State St., Bangor (1 yr.)
Harry M. Helfrich, Jr., M.D., 555 Main St., Presque Isle (1 yr.)
Eustache N. Giguere, M.D., 90 Webster St., Lewiston (3 yrs.)

Legislative Committee

Wilson H. McWethy, M.D., 31 Western Ave., Augusta (1 yr.) Chairman
John F. Andrews, M.D., 20 West St., Boothbay Harbor (2 yrs.)
Charles A. Hannigan, M.D., 85 Goff St., Auburn (2 yrs.)
M. Tieche Shelton, M.D., 21 Western Ave., Augusta (3 yrs.)
Brinton T. Darlington, M.D., Westwood Rd., Augusta (3 yrs.)

Rural Health Committee

Howard H. Milliken, M.D., 105 Second St., Hallowell (2 yrs.) — Chairman
Robert F. Russell, M.D., Penobscot (2 yrs.)
Frederick W. Skillin, M.D., 69 So. High St., Bridgton (3 yrs.)
Wallace E. Viles, M.D., Turner (3 yrs.)
Arthur P. Reynolds, M.D., 420 Main St., Presque Isle (1 yr.)
Philip B. Chase, M.D., 36 Main St., Farmington (1 yr.)

Board of Ethics and Discipline

Alvin A. Morrison, M.D., 57 Deering St., Portland (1 yr.) — Chairman
Edmund N. Ervin, M.D., 2 School St., Waterville (1 yr.)
Karl V. Larson, M.D., East Machias (2 yrs.)
William F. Mahaney, M.D., 338 Main St., Saco (2 yrs.)
Forrest B. Ames, M.D., 255 Hammond St., Bangor (3 yrs.)
Armand Albert, M.D., 193 Main St., Van Buren (3 yrs.)

Investment Committee

Elton R. Blaisdell, M.D., 12 Deering St., Portland — Chairman
Emerson H. Drake, M.D., 18 Bramhall St., Portland
Paul S. Hill, Jr., M.D., 323 Main St., Saco

Committee on Credentials

John F. Dougherty, M.D., 112 Front St., Bath (3 yrs.) — Chairman
Paul A. Fichtner, M.D., 6 Pleasant St., Rangeley (3 yrs.)
Thomas Anton, M.D., 260 Main St., Biddeford (2 yrs.)
L. Armand Guite, M.D., 45 Elm St., Waterville (2 yrs.)
Stephen A. Cobb, M.D., 34 Winter St., Sanford (1 yr.)

Health Insurance Committee

Francis A. Winchenbach, M.D., 910 Washington St., Bath (3 yrs.) — Chairman
Linus J. Stitham, M.D., 50 Main St., Dover-Foxcroft (3 yrs.)
Louis A. Asali, M.D., 29 Deering St., Portland (3 yrs.)
Samuel L. Belknap, M.D., Damariscotta (2 yrs.)
Edward K. Morse, M.D., 22 White St., Rockland (2 yrs.)
Philip P. Thompson, Jr., M.D., 704 Congress St., Portland (2 yrs.)
Waldo A. Clapp, M.D., 215 College St., Lewiston (1 yr.)
Kenneth W. Sewall, M.D., 2 School St., Waterville (1 yr.)
Clyde I. Swett, M.D., 18 Sherman St., Island Falls (1 yr.)

Representing County Medical Societies:

Walter L. H. Hall, M.D., 130 Middle St., Old Town (Penobscot)

Paul A. Fichtner, M.D., 6 Pleasant St., Rangeley (Franklin)
Harland G. Turner, M.D., R.F.D. No. 2, Norridgewock (Somerset)
Dwight Cameron, M.D., Rockend Rd., Northeast Harbor (Hancock)
George L. Temple, M.D., 18 Franklin St., Belfast (Waldo)
Hazen C. Mitchell, M.D., Calais (Washington)
Alexander W. Magocsi, M.D., York (York)

Delegate and Alternate to AMA

January 1, 1959 to January 1, 1961

Delegate — Philip P. Thompson, Jr., M.D., 704 Congress St., Portland
Alternate — Asa C. Adams, M.D., 68 Main St., Orono

COMMITTEE REPORTS — 1957-1958

STANDING

Committee on Medical Education and Hospitals

The Committee on Medical Education and Hospitals of the Maine Medical Association herewith submits its annual report.

In the notification of appointment by the Secretary this Committee was instructed that its origin stems from Chapter VII, Section 5 of the By-laws and that its duties shall be:

1. to keep itself constantly informed concerning the relations between physician and hospitals;
2. to be advised on the problems of medical education, with particular attention to opportunities for students in Maine so desiring to obtain a medical education;
3. to be advised of and provide opportunities for postgraduate training for doctors in Maine.

To better instruct ourselves, over the past five years we have frequently reviewed the comprehensive and most informative reports of previous Committees and have tried to emulate their conscientious and constructive approach to the many problems involved.

A. Definition of the duty of this Committee as expressed in item I of the By-laws.

Various members of this Committee feel that the subject of hospital-physician relationships is a delicate matter and one that must be clearly defined. Certain obvious aspects of such relationships would automatically fall within the preview of the Board of Ethics and Discipline or a Grievance Committee. Another facet of such relationship pertaining to a consideration of the method of compensating anesthesiologists, radiologists and pathologists, has previously been vigorously opposed by the Council on the grounds that such definition of ethics has already been carefully studied and explicitly stated by the House of Delegates of the American Medical Association in conjunction with national organizations of the specialties named. In conclusion, it was agreed that until otherwise instructed, this Committee would hold itself ready to review, consult or advise on any problem arising in the field of physician-hospital relationship to which its attention might be properly drawn or in which it might be invited to participate.

B. Relative to item II, each year we contact the dean and/or registrar of the University and approved general Colleges in the state to ascertain the number of students in the senior class preparing to enter medical school and make inquiry concerning a lack of funds that might preclude anyone from accomplishing this purpose. This year we were informed that of the 1231 seniors in these institutions, 24 were planning to go to medical school and had academic attainments that might make them eligible. None of these were reported as being unable to attend medical school because of lack of funds so no further personal inquiries were made.

This April our Executive Director, Dr. Hanley surveyed 28 medical schools in the United States and Canada that might logically fall within the consideration of prospective students from Maine. Of these, 26 replied and it appears at present that there are 56 students from this state "in course" at these schools. Of these, 20 are seniors and presumably will soon graduate. Furthermore, since May, 1956, 37 Maine students have graduated from these schools.

In the Journal of the American Medical Association for June 1, 1957 six of our foremost medical educators have written articles that merit careful reading and serious study by all individuals interested in and concerned with medical education or the practice of medicine. They succinctly bring into sharp focus the appalling task facing medical educators amidst the ferment and unrest that pervades the profession to-day. Educational experimentation as expressed in curriculum planning, revision and other gimmicks is underway in the majority of medical schools throughout the land, with a distinct view to shortening the present prolonged undergraduate study, — amounting to an average of 11 years, — and broadening the scope of instruction, interest, content and methodology offered the student as well as stimulating an integrated university-medical school education to increase motivation and attract desirable students now being lost to other fields of science.

It is the expressed opinion of this Committee that in the immediate future we should contact the professors of biology, chemistry and physics of our various Colleges in a studied attempt to find students of outstanding scientific ability and having found them, then do everything within our power to attract them to the field of medicine.

C. Apropos of item III of our stated responsibilities, our various Committees over the past ten years have devoted more time and effort to the problems of postgraduate education in the State of Maine than to all other considerations, — and with somewhat discouraging and questionable results. As

a preamble to any consideration of this subject it cannot be too strongly emphasized that the education of a physician must be a continuing process from the day he enters college till the day he retires from practice. This concept has been repeatedly emphasized by many famous medical educators from the days of Hippocrates some 400 years B. C. — to the present, — but by none with greater clarity than Dr. Laurence B. Ellis in the New England Journal of Medicine of February 11, 1954, which we quoted in our report of 1954.

"The continuing professional education of practicing physicians constitutes one of the most important, difficult and neglected problems facing American medicine to-day. — The problem of providing adequate opportunities for post-graduate medical education for the physician in rural practice, — often isolated and divorced from contact with teaching centers or even fellow physicians, cannot be solved without full cooperation of the doctor himself."

In 1955 the Council on Medical Education and Hospitals of the American Medical Association published in the Journal (footnote reference) a comprehensive, exhaustive and shocking report of two and a half years of study and survey of postgraduate medical education in this country compiled by its subcommittee on Postgraduate Medical Education. The gist of that report should be required reading for every doctor in the state. That Committee was composed of personal friends and former associates and their report was studied with the greatest of care in an endeavor to accurately assess how well or how poorly we stacked up with the National average. This is neither the time nor place to review or attempt to summarize a highly statistical thirty page report but for the record, certain comparisons must be drawn.

The Committee attacked the problem from the following angles:

1. Scope and Extent of Postgraduate Medical Education in the U. S.
2. The Physician as a Lifelong Student
3. Objectives and Content of Postgraduate Medical Education
4. Educational Methods
5. Time, Place and Arrangements of Postgraduate Courses for Practitioners
6. Sponsorship and Administration of Postgraduate Medical Education
7. Financing Postgraduate Medical Education
8. The future of Postgraduate Medical Education

The "scope and extent" pointed out that in 1953 some 5000 physicians throughout the country kept up to date in their practice by the following methods, the figures representing median equivalent 8-hour days actually devoted to the activity per year —

Medical reading	28.5
Professional contacts	28.
Hospital meetings	19.
Medical Society meetings	4.1
Postgraduate courses attended	3.7

It is suggested that these figures are probably somewhat higher than they would be for the entire physician population since those who returned their questionnaires were presumed to have a higher level of interest in continuing education. While practically all of the respondents reported some use of the first four methods, only 70% reported having attended any postgraduate courses in the past five years. Although comparable information is not available from our state, nevertheless it should be noted that our practicing physicians have at their disposal and use the same modalities of study enjoyed by their brethren throughout the nation. Also, in our following comments we are quite cognizant of the fact that attendance at meetings of whatever calibre or content tends to be spotty and cyclic, falling off in one area for a few years and then regaining a momentum of better attendance.

The figure for postgraduate medical reading indulged in by the physicians of Maine would, we believe, be as high, if not higher than the national median. Quite naturally, our figure for Professional Contacts might suffer. With the intensely active hospital programs in Bangor, Waterville, Lewiston and Portland, we would presumably hold our own on Hospital Meetings attended by the physicians of this state. Medical Society meetings, other than those within our own state would in all probability equal or better the national average, for out of 830 practicing doctors in the state, 230 or 27% are Board specialists and these individuals must maintain a high average attendance at specialists meetings. As for Postgraduate Courses attended, we believe that we may be well above the national average for 1955. For example, in one instance alone during 1957-58, 50 practitioners attended each of four postgraduate courses of 18 hours each, — said courses being approved by the Academy of General Practice for credit. If we had an accurate summary of the postgraduate teaching courses of the other major hospitals, these figures would be multiplied many times over.

Thinking in terms of further self-improvement and extracting suggestions from the experience of other medical societies in which the membership is widely dispersed throughout essentially rural areas, it is the expressed opinion of this Committee that some concrete effort be made to codify and implement a dynamic program of postgraduate medical education for the Fellows of this Association. Many of the following patterns have been successful, — others might bear further exploration.

1. The Committee feels that the Annual Fall Clinical Session is a splendid though recognizably limited attempt at solving the problem of postgraduate education for the physicians of the state of Maine, and express deep regret that so few physicians avail themselves of this opportunity. Excellent speakers present papers of national meeting calibre, on subjects of general interest. The aims, methods employed, the content, time, place, facilities, faculty and method of administration have been carefully considered and developed. The sincere appreciation of the Association should be expressed to those responsible for this outstanding achievement.

2. Purely as a matter of geographical convenience within our state, the addition of two or three mid-winter sectional meetings such as might be held at points in the north, east and southerly sections of the state. These might be patterned exactly after the Fall Clinical Sessions and minimized to one day. Conceivably, they might be correlated in such a way that the same panel of speakers might participate in the various sectional meetings.

3. Perhaps the nearest approach to reality rests in a "circuit riding panel" of two or three men provided from a central speakers bureau of the Association, who fortnightly or once a month might visit small groups of physicians in more remote districts, providing practical clinical talks on various pertinent subjects, or presenting material requested. Such teams have been known to cover as many as four contiguous areas in a two-day jaunt, and over a nine month period have reasonably reviewed modern advances in medicine, surgery and obstetrics.

4. As a corollary to the above, it has been most fortuitously suggested that an exchange system of ward rounds might be extremely beneficial to all concerned, promoting better communication and esprit de corps throughout our large, unwieldy geographical area. Thus, on invitation, a prominent physician and/or surgeon from Hospital A might be invited

---

Footnote reference: J.A.M.A.V. 157, p. 703; 912; 1119; 1302; 1492, — 1955; ibid V. 158, p. 39; 184; 395, — 1955

to make grand rounds at Hospital B for a morning session. This would promote an exchange of ideas, improve patient care through bedside teaching and we would anticipate cement professional and personal fellowship.

5. Short courses or teaching clinics varying from one half to two days are frequently offered by various major teaching hospitals. Many of these are poorly attended. This is unfortunate as they constitute one of the easiest, least expensive and least time consuming forms of postgraduate education. In our opinion one of the principal reasons for lack of physician response to such opportunities is the failure to adequately publicize such courses. It is suggested that space be set aside in the Journal to prominently list all such postgraduate opportunities and that this Committee or the Editors of the Journal use every possible device to elicit such information from Chiefs-of Staff, Committees on Education and Administrators of the various hospitals about the state.

6. This Committee earnestly recommends the establishment of a Speakers Bureau, at the central office of the Association. Such a group to be composed essentially of members of the Maine Medical Association who on invitation, can and will devote time toward the dissemination of basic medical knowledge or to improve public relations of physicians and the Maine Medical Association in particular.

7. Recognizing the Grange as one of the most powerful influences for good in the lives of the citizens of this state and knowing the national reputation and concern of this organization in providing better medical care in rural areas, we recommend that — possibly through a central committee, — an attempt be made to explore fields of mutual cooperation, particularly in the area of public education concerning matters of health.

It is said by many that our continuing education we have too long treated with a fatalistic philosophy rather than with a dynamic one. Whether the American Medical Association or the Federal Government sets up a Council on Postgraduate Medical Education is at present of little concern to us here in Maine. We must provide our own objectives and our own instruction with the aid of whatever agencies we can enlist. But what is most important, we must awaken within ourselves the realization that the modern practice of medicine requires a depth of knowledge not even dreamed of a few years ago. Modern medicine is not an isolated empirical entity but borrows to an ever increasing extent from the many sciences and humanities on all sides as its breadth expands. If we would keep faith with our patients we must keep a sharp vigil on ourselves.

WILLIAM L. MACVANE, Portland
PAUL H. PFEIFFER, Waterville
RICHARD C. WADSWORTH, Bangor
HAROLD DRAPER WARREN, Caribou
CHARLES F. BRANCH, Lewiston, Chairman

(Committee Reports will be continued in the August issue of The Journal)

Necrologies

GEORGE E. DASH, M.D.

1883-1958

George E. Dash, M.D., 74, of Boothbay Harbor, died February 17, 1958.

A member of the American Medical Association and the American Pediatrics Society, Dr. Dash was an Honorary Member of the Maine Medical Association and the Lincoln-Sagadahoc County Medical Society.

He was born in Portsmouth, Ohio, July 7, 1883, the son of Charles E. and Mary Eaves Dash. He received his medical degree from the American Eclectic Medical Institute in Cincinnati in 1905, and did postgraduate work at Harvard.

Dr. Dash established one of the first pediatric practices in Cincinnati. He was on the staff of the Cincinnati Hospital and the Bethesda Hospital. For thirty years he was head of the medical department of the Children's Home of Cincinnati.

In 1947 after his retirement, Dr. Dash came to Boothbay Harbor and has served on the staff of St. Andrews Hospital and of Miles Memorial Hospital in Damariscotta. He started a well-baby clinic in the region ten years ago.

He is survived by his widow, Edith H. Dash and a son, David Dash, both of Boothbay Harbor; and a brother, Cyrus C. Dash of Turlock, California.

RAYMOND R. TIBBETTS, M.D.

1875-1958

Raymond R. Tibbetts, M.D., 82, of Bethel, died February 27, 1958.

Dr. Tibbetts was born in Palermo, Maine, September 11, 1875, the son of Woodbury and Cynthia Stearns Tibbetts. He attended Maine Central Institute, Bridgton Academy and Bowdoin College.

He received his medical degree from Bowdoin College Medical School in 1901. He did two years of postgraduate work at Maine General Hospital.

He began his practice in Belfast in 1902 and moved to Bethel in 1905.

Dr. Tibbetts was an Honorary Member of the Maine Medical Association and the Oxford County Medical Society. In 1956 he received a 55-year medal from the State Association.

Fred P. Webster, M.D.

1878-1958

Fred P. Webster, M.D., 79, a pediatrician in Portland for 54 years, died February 26, 1958.

Dr. Webster was a member of the American Medical Association, the American Academy of Pediatrics, the New England Pediatric Society, and the Portland Medical Club. In 1951 he was made an Honorary Member of the Maine Medical Association and the Cumberland County Medical Society and in 1956 he received the Association's 55-year medal.

He was born in Somerville, Massachusetts, April 18, 1878, son of Merit V. and Ella Shapleigh Webster. He attended Boston English High School, graduated from Bowdoin College, Summa Cum Laude, and was a member of Phi Beta Kappa. He received his medical degree from Harvard Medical School in 1901. He did postgraduate work at Massachusetts General Hospital and Boston Children's Hospital.

Dr. Webster began his pediatric practice in Portland in 1904. From 1911 to 1917 he was professor of diseases of children at the Bowdoin College Medical School. He was on the staff of Maine General Hospital and the Maine Eye and Ear Infirmary. He was a member of the State Street Congregational Church, the Portland Club and the Portland Country Club.

Surviving are his widow, Helen Parsons Webster; two sons, Scott M. Webster, Van Nuys, California and Eliot C. Webster, Plainville, Connecticut; two daughters, Mrs. R. William Brown, Jr., Lununburg, Massachusetts and Mrs. Richard K. Gould, Newport Beach, California; and 11 grandchildren.

Deceased

CUMBERLAND

William H. Shanahan, M.D., 1231 Forest Avenue, Portland, June 11, 1958.

PENOBSCOT

John B. Thompson, M.D., 9 Central Street, Bangor, June 25, 1958.

Frank D. Weymouth, M.D., 46 North Main Street, Brewer, November 1, 1957.



News and Notes



Damariscotta Physician Honored

Rufus E. Stetson, M.D., of Damariscotta, was awarded an honorary Doctor of Science degree at the 153rd Commencement of Bowdoin College, Brunswick. Dr. Stetson, of the Class of 1908, was honored on the 50th anniversary of his class.

Maine Medico-Legal Society

Philip O. Gregory, M.D., Boothbay Harbor, was elected President of the Maine Medico-Legal Society at its annual meeting in conjunction with the Maine Medical Association Annual Session in Rockland, June 24, 1958.

Cumberland County Attorney, Arthur Chapman, Portland, was elected Vice-President, and Arch H. Morrell, M.D., Augusta, Treasurer.

George L. Pratt, M.D., Farmington, was re-elected Secretary for the 24th consecutive year.

Maine Radiological Society

Irving L. Selvage, Jr., M.D., of Portland, was elected President of the Maine Radiological Society at its Annual Meeting held during the Maine Medical Association Annual Meeting in Rockland, June 23, 1958.

Roland Clapp, M.D., of Portland, was elected Vice-President and Francis J. O'Connor, M.D., of Augusta, was re-elected Secretary.

John T. Konecki, M.D., Lewiston, retiring President, announced the winners of the annual Dr. George Holmes awards. The awards are named in honor of George W. Holmes, M.D., of Belfast, formerly chief of radiological services at Massachusetts General Hospital. Recipients were Sister Mary Edith of the Mercy Hospital in Portland and Lewis Incze, Ph.D., chief x-ray technician at St. Mary's Hospital in Lewiston.

TAKE A NEW LOOK AT FOOD ALLERGENS* TAKE A LOOK AT NEW DIMETANE



DIMETANE Extentabs (12 mg. each, coated) provide antihistamine effects daylong or nightlong for 10-12 hours. Tablets (4 mg. each, scored) or pleasant-tasting Elixir (2 mg./5 cc.) may be prescribed t.i.d. or q.i.d., or as supplementary dosage to Extentabs in acute allergic situations. A. H. ROBINS CO., INC., Richmond 20, Virginia. Ethical Pharmaceuticals of Merit Since 1878.

*Sea food—source of highly potent allergens. Typical are: lobster; tuna; sturgeon roe; fish oil used to prepare leather, chamois, soaps; cuttlefish bone for polishing material and tooth powder; glues made from fish products.

Maine Chapter, American College of Surgeons

Harry Brinkman, M.D., Farmington, chief of surgery at Franklin County Hospital, became president of the Maine Chapter American College of Surgeons, at their specialty group meeting during the Annual Session of the Maine Medical Association in Rockland, June 23, 1958. He succeeds William V. Cox, M.D., of Auburn, chief of surgery at Central Maine General Hospital, Lewiston.

Announcements

Department of Health and Welfare
Division of Maternal and Child Health,
Including Services for Crippled Children

CLINIC SCHEDULE

Orthopedic Clinics

Portland — Maine Medical Center
9:00 a.m.: July 14, Aug. 11, Sept. 8
Lewiston — Central Maine General Hospital
9:00 a.m.: July 18, Aug. 15, Sept. 19
Rumford — Community Hospital
1:30 p.m.: Sept. 17
Rockland — Knox County Hospital
1:30 p.m.: Aug. 21
Machias — Washington County Normal School
1:30 p.m.: July 16
Presque Isle — Northern Maine Sanatorium
9:00 a.m. and 12:30 p.m.: July 9, Sept. 9
Houlton — Aroostook General Hospital
9:00 a.m.: July 8
Fort Kent — Peoples Benevolent Hospital
10:00 a.m.: Sept. 10
Bangor — Eastern Maine General Hospital
1:00 p.m.: July 24, Sept. 25 (Several will be two-session clinics.)
Augusta — Augusta General Hospital
1:00 p.m.: Aug. 28

Continued on page 290



In a recent 140-patient study[1] DIMETANE gave "more relief or was superior to other antihistamines," in 63, or 45% of a group manifesting a variety of allergic conditions. Gave good to excellent results in 87%. Was well tolerated in 92%. Only 11 patients (8%) experienced any side reactions and 5 of these could not tolerate any antihistamines.

Robins

1. Thomas, J. W.: Ann. Allergy 16:128, 1958

Dimetane®
(PARABROMDYLAMINE MALEATE)

EXTENTABS® • ELIXIR • TABLETS

Cardiac Clinics

Portland — Maine Medical Center
9:00 a.m.: Every Friday (Holidays excepted)
Bangor — Eastern Maine General Hospital
9:00 a.m.: July 11-25, Aug. 8-22, Sept. 12-26

Cleft Palate Evaluation Clinics

Portland — Maine Medical Center
10:00 a.m.: Aug. 12

Pediatric Clinics

Bangor — Eastern Maine General Hospital
1:30 p.m.: July 25, Aug. 22, Sept. 26
Fort Kent — Peoples Benevolent Hospital
10:00 a.m.: July 23
Presque Isle — Northern Maine Sanatorium
1:30 p.m.: Sept. 24
Waterville — Thayer Hospital
1:30 p.m.: July 1, Aug. 5, Sept. 2

Clinics for Mentally Retarded Pre-School Children

Waterville — Thayer Hospital
9:00 a.m.: July 2, Aug. 6, Sept. 3

American Association of Medical Assistants

The Second Annual Convention of the American Association of Medical Assistants will be held at the Palmer House, Chicago, October 31, November 1 and 2, 1958. Inquiries may be addressed to Miss Hallie Cummins, R.R.L., Chairman of the Public Relations Committee, Medical Record Library, Caro State Hospital for Epileptics, Caro, Michigan.

The Academy of Psychosomatic Medicine

The fifth annual meeting of The Academy of Psychosomatic Medicine will be held October 9-11, 1958, at the Park Sheraton Hotel in New York City. The program will be devoted to "The Psychosomatic Aspects of Internal Medicine" and will include formal papers, panel discussions and luncheon conferences. The meeting will be open to all scientific disciplines, as well as psychologists, social workers and nurses. Information may be obtained from Dr. Bertram B. Moss, Suite 1035, 55 East Washington Street, Chicago 2, Illinois.

Doctors in good standing in their county medical society and clinical psychologists with degree of Ph.D. are eligible to join the Academy.

Urology Award

The American Urological Association offers an annual award of $1000 (first prize of $500, second prize $300 and third prize $200) for essays on the result of some clinical or laboratory research in Urology. Competition is limited to urologists who have been graduated not more than ten years, and to hospital internes and residents doing research work in Urology.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Chalfonte-Haddon Hall, Atlantic City, New Jersey, April 20-23, 1959.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before December 1, 1958.

Continued on page 292



in

rheumatoid arthritis

lupus erythematosus

nephrosis

pemphigus

in

hay fever

poison ivy dermatitis

urticaria

drug reactions

in

bronchial asthma

rheumatic fever

ulcerative colitis

angioedema

Schering

the physician's choice
for the patient's benefit

METICORTEN®
prednisone

long-term*

short-term*

urgent*

therapy

SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY
MC-J-2078

SCHERING

Interim Meeting of the American Institute of Ultrasonics in Medicine

Bellevue-Stratford Hotel, Philadelphia, Pennsylvania, August 23, 1958. John H. Aldes, M.D., Secretary, 4833 Fountain Avenue, Los Angeles 29, California.

Nation's Oldest Essay Contest

The Trustees of America's oldest medical essay competition, the Caleb Fiske Prize of the Rhode Island Medical Society, announce as the subject for this year's dissertation "Bronchogenic Carcinoma — Predisposing Causes." The dissertation must be typewritten, double spaced, and should not exceed 10,000 words. A cash prize of $300 is offered. Essays must be submitted by December 31, 1958.

For complete information regarding the regulations write to the Secretary, Caleb Fiske Fund, Rhode Island Medical Society, 106 Francis Street, Providence 3, Rhode Island.

National League for Nursing, Inc.

There is urgent need to have a diligent and constant search for nurses with outstanding ability and leadership potential and to provide opportunities for such persons to have advanced education.

The purpose of the NLN Fellowship Program is to find nurses with these qualifications and to provide funds to subsidize their programs of graduate study. This program, made possible by a grant from the Commonwealth Fund, has been in existence for four years and during this time seventy-two grants for doctoral study and twenty-four grants for master's study have been awarded. We are eager to find fellowship applicants for study beginning September, 1959 who will make significant contributions to nursing after a period of advanced study.

Address: Dr. Rozella Schlotfeldt, Chairman, NLN Fellowship Program, Committee on Awards, 2 Park Avenue, New York 16, N. Y.

The American College of Obstetricians and Gynecologists

To Whom It May Concern:

Future meeting plans of the American College of Obstetricians and Gynecologists, 15 South Clark Street, Chicago 3, Illinois, are as follows:

1959 — Atlantic City, New Jersey — April 5-9
Headquarters — Traymore
All activities except Breakfast Conferences and banquet in Convention Hall

1960 — Chicago, Illinois — April 24-27
Headquarters — Morrison Hotel
All activities in hotel

1961 — Boston, Massachusetts — April 16-21
(If no convention hall is available this meeting will have to be transferred to The Americana, Bal Harbour, Miami Beach, Florida.)



The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, August, 1958 | Number 8

Recent Advances In Anesthesia

Howard P. Sawyer, Jr., M.D.

The search for the ideal anesthetic agent is still underway. When discovered such an agent will be inexpensive, noninflammable, pleasant, provide good relaxation at light levels with a wide margin of safety and a minimum of toxicity and side effects.

As a relative newcomer among the full time specialties the field of anesthesiology has been afforded numerous areas for rapid advances, many of which have been necessitated by or paved the way for advances in surgery. Anesthesiology and surgery are so interdependent that many of the following paragraphs might as well have been taken from the notes of a surgeon as an anesthesiologist.

Regional Anesthesia

As a local anesthetic procaine hydrochloride has withstood the test of time, nevertheless the search continues for a more potent, less toxic, longer acting drug with a shorter latent period and greater spreading properties. Some feel that lidocaine (Xylocaine®) comes close to fulfilling those requirements, but accumulating experience is beginning to suggest that chlorprocaine (Nesacaine®) may come even closer.

There have appeared relatively few new technics of significant value in recent years. The subarachnoid injection of alcohol as introduced in 1930 by Prof. Dogliotti of Italy for the relief of the severe pain of terminal malignancy has been advocated and expanded. The relief afforded by cordotomy or lobotomy has frequently been unsatisfactory, and such procedures may be contraindicated because of anemia or cachexia. The neurolytic action of absolute alcohol provides a comparatively high incidence of pain relief which may be immediate or delayed for a few days and generally lasts for several weeks or months after which the injection may be repeated.

A careful neurological examination is mandatory to identify properly the spinal cord segments involved following which 0.5 to 1.0 c.c. of 95% alcohol is injected at each segment at a rate of 0.1 c.c. per minute preferably with a tuberculin syringe. Proper positioning of the patient, the relatively low specific gravity of the alcohol and its slow injection provide accurate localization of the neurolysis to the desired dorsal sensory roots. Reported complications include meningismus, adhesive pachymeningitis, rectal incontinence and paresis if the anterior motor roots are blocked.

Premedication and General Anesthesia

The value of routine preoperative narcotics, particularly in the pain free patient undergoing elective surgery, has lately been condemned, with apparent justification, by several competent anesthesiologists in different parts of the country because of the circulatory and respiratory depressing effects.

The status of various tranquilizers of the phenothiazine group in preoperative medication is still unsettled. Opinions vary as to whether or not the decreased ability of the circulatory system to reflexly compensate is too great a price to pay for the indifference to environment attained with a minimal hypnotic effect.

*Department of Anesthesia, Maine Medical Center, Portland.

The widespread use of adrenal corticosteroids for an ever increasing variety of conditions has introduced a potentially serious problem in patients coming to surgery who have taken one of the steroids, especially Cortisone, at one time or another within the previous year. With blood cortisone levels increased exogenously the pituitary ACTH production falls off to the point where the adrenal cortex atrophies. Upon withdrawal of exogenous cortisone ACTH production slowly increases, yet for an indeterminate period of time the adrenal cortical function, while adequate for daily existence, is incapable of meeting the stress of even minor surgery and must then be supplemented with exogenous cortisone to minimize the liklihood of an acute adrenal crisis developing. These crises have been much more successfully managed since the advent of soluble hydro cortisone preparations for parenteral use. Crises can usually be prevented by giving 200 mgs. of cortisone per day for two days prior to operating on patients whose adrenals are suspected of being incapable of an adequate stress response and tapering off the dose post operatively over five to seven days. Since a crisis is more prone to develop after than during surgery and anesthesia the vital signs must be followed closely for forty-eight hours.

Reports in the literature are very scarce concerning the dangers of severe hypotension during anesthesia in patients whose hypertension is being treated with one of the rauwolfia derivatives. However experiences are coming to light indicating that sudden and profound drops in blood pressure with or without bradycardia are not at all uncommon during surgery in such patients. The bradycardia usually responds to atropine intravenously and the hypotension is reversed with an infusion of dilute norepinephrin (Levophed®) which may have to be continued for several hours postoperatively. Until more experience is accumulated it might be well to delay elective surgery until the drug has been stopped for ten to fifteen days inasmuch as it is slowly excreted.

Prior to the introduction in 1942 by Griffith and Johnson of curare as a means of producing muscle relaxation for surgical procedures such relaxation was achieved through deep levels of anesthesia which also obtunded reflexes that were felt to be undesirable. Quite prevalent now is the feeling that many of these reflexes may be protective and hence their preservation through light levels of anesthesia is more to be desired than their abolition by deep levels. The ability of the "poor risk" patient to withstand major surgery while under very light anesthesia has been amply demonstrated with nitrous oxide by Heller and with ether by Artusio. In fact Artusio has expanded the anelgesic first stage of Guedel's classic differentiation of levels of anesthesia to include three planes wherein a patient undergoing major surgery is able to respond to commands, although completely free of pain and of any memory of the procedure.

Monitoring Devices

In the late nineteenth century it was common practice to relegate the administration of anesthesia to medical students. While so engaged, Codman and Harvey Cushing devised the first anesthesia chart. On returning from seeing Riva Rocci and his sphygmomanometer in Italy, Cushing introduced the custom of recording blood pressure in addition to the pulse and respiration. These plus the condition of the skin are not always adequate to assess the patient's general condition in the face of the increasing magnitude of surgical onslaughts, particularly on patients who not many years ago would have been turned down as too poor a risk for anesthesia or surgery.

An operating room cardioscope has been developed whereby the electrocardiographic pattern is seen on an oscilloscope screen encased in an explosion proof housing for use with safety during the administration of any anesthetic. Any pattern of interest may be permanently recorded on an ordinary electrocardiographic machine located in the corridor.

Relatively consistent correlation has been observed between stages of anesthesia, blood gas levels and electroencephalographic patterns which may be observed on the same oscilloscope screen, on some models even simultaneously with the electrocardiogram. These patterns are relatively sensitive indicators of brain cell activity, blood flow and oxygenation and will frequently indicate inadequate blood flow and oxygenation sooner than will changes in the electrocardiograph. Servel machines have been devised, which in response to electroencephalographic changes will automatically regulate the input of pentothal or ether to a patient to maintain a preselected level of anesthesia. Expense and other variables have limited its clinical application.

Other devices used to monitor patients during surgery include; ventilation meters to indicate tidal volume; infra red analyzers to measure exhaled carbon dioxide; thermistors to indicate rectal or esophageal temperature; amplifiers of breath sounds; visual and/or auditory signals activated by peripheral pulse or the heart's electrical output. A still reliable, simple and useful device is a stethoscope fixed over the precordium for which a comfortable single moulded plastic earpiece is now available.

Anesthetic Agents

The search for the ideal anesthetic agent is still underway. When discovered such an agent will be inexpensive, noninflammable, pleasant, provide good relaxation at light levels with a wide margin of safety and a minimum of toxicity and side effects.

Trichlorethlyene, introduced in England by Hewer in 1941, is becoming more widely used now in America. It is potent and volatile yet not irritating while producing amnesia and a high degree of anelgesia in light levels of anesthesia.

Fluothane (2 bromo, 2 chloro trifluoroethane) after

James Esdaille is reported to have done over three hundred operations including amputations and mastectomies under hypnosis alone . . . . Ten percent of all individuals are completely unaffected by hypnosis; twenty-five percent can be put into a light trance without anelgesia; thirty-five percent can be put into a medium trance suitable for minor surgery; and twenty percent can be put into a deep trance adequate for major surgery.

trials in several centers is now being made available to physicians. Four times as potent as diethyl ether, its safe administration requires special finely adjustable vaporizers since very small changes in its concentration will produce profound changes in the depth of anesthesia. It is a powerful sympathetic depressant frequently producing cardiovascular collapse when used with curare. The advantages of smooth inductions, minimal nausea and non-flammability may be outweighed by its extreme potency. It is definitely not for use by the untrained or part time anesthetist.

Antagonists

In the past few years narcotic antagonists have definitely proven their value. N allyl nor morphine (Nalline®) and N allyl nor levodromoran (Lorfan®) are closely related to morphine and levodromoran respectively. The only apparent advantage of one over the other is that while Nalline is a narcotic under the Harrison Act, Lorfan is not. Both produce effects similar to but of less magnitude than their parent drugs when exhibited alone but will antagonize any narcotic already in the system, presumably by competition and displacement at the receptor sites. For this reason both are definitely contraindicated in the presence of depression due to anything except a narcotic. They will only contribute further to barbiturate induced depression. In obstetrics they have been given prior to delivery to overly narcotized mothers or to depressed infants via the umbilical vein. The respiratory depression of narcotics used in anesthesia to supplement nitrous oxide may be minimized without affecting analgesia by adding levallorphan in the proper ratio for whatever narcotic is used.

A new barbiturate antagonist which may show promise is B-ethyl B-methyl glutaramide (Megamide®), an analeptic intermediate in activity between picrotoxin and metrazol. It has shortened the waking time after barbiturate anesthesia and has restored reflexes and improved respiration in cases of barbiturate poisoning. Fifty mgs. (ten c.c. of a 0.5% solution) are given intravenously every three to five minutes until vital signs improve and deep tendon, eyelid and pharyngeal reflexes return.

Hypnosis

Hypnosis, practiced by the ancient Greeks and reintroduced by Mesmer in the eighteenth century, has provided the sole form of anelgesia for many surgical procedures between 1830 and 1850. James Esdaille is reported to have done over three hundred operations including amputations and mastectomies under hypnosis alone, many of them in India where a hospital was built solely for surgery under hypnosis. The advent of ether and chloroform, the poor reputation incurred by the charlatans who dabbled in hypnotism plus its failure in America to relieve operative pain caused it to be discarded as a form of surgical anelgesia.

With the liberation of Singapore from Japanese occupation in 1945 came stories of operations done under hypnosis when medical supplies had run low.

During the present decade interest has again arisen in the use of hypnosis for surgical anelgesia particularly among dentists. Excisions of superficial tumors, wens, lipomas, open heart surgery, Caesarian section and hysterectomy have been successfully completed under hypnosis alone.

Ten percent of all individuals are completely unaffected by hypnosis; twenty-five percent can be put into a light trance without anelgesia; thirty-five percent can be put into a medium trance suitable for minor surgery; and twenty percent can be put into a deep trance adequate for major surgery. One or more preoperative visits are necessary to evaluate the patient as a candidate for hypnosis and to induce a hypnotic state in order to test a patient's susceptibility and to facilitate subsequent inductions. The time required and the uncertainty of the results limit the usefulness of hypnosis as the sole form of surgical anelgesia to those patients who are not suitable for regional or general anesthesia.

Controlled Hypotension

In order to reduce blood loss during surgery and also to provide a relatively bloodless field, thus facilitating operations which would otherwise be extremely difficult, blood pressure has been purposefully lowered. This has been accomplished by various methods including the application of negative pressure to pool the blood peripherally in the lower extremities, arteriotomy with removal of blood to be replaced later, sympathetic blockade using high subarachnoid or epidural blockade, or a pharmacological blockade with one of the methonium compounds or the thiophanium derivative Arfonad®. The latter is probably the method of choice

The purpose of hypothermia is to reduce body metabolism, oxygen need and carbon dioxide production by vital organ cells during episodes of decreased blood flow, thus better enabling those organs to withstand degrees of hypoxia which at a normal temperature and metabolic rate would be highly injurious if not fatal.

today as its brief action makes it fairly controllable when administered in a 0.1 per cent solution in normal saline or five per cent dextrose in water. Controlled hypotension is not without its dangers and should be reserved for those cases which would be extremely difficult without it and where no contraindications exist such as chronic hypertension with renal or pulmonary disease, angina or coronary insufficiency, shock or Addison's disease.

Hypothermia

The anesthetic effect of cold has long been known and applied. Fay in 1938 observed the effect of cold in slowing metabolism and growth in tumor cells, while Bigelow in 1950 used deliberate hypothermia in cardiac surgery, having demonstrated a direct relationship between rectal temperature and hypometabolism as manifested by a decrease in oxygen consumption.

The purpose of hypothermia is to reduce body metabolism, oxygen need and carbon dioxide production by vital organ cells during episodes of decreased blood flow, thus better enabling those organs to withstand degrees of hypoxia which at a normal temperature and metabolic rate would be highly injurious if not fatal.

The effects of hypothermia are numerous and varied. At 25°C oxygen consumption falls to one third of normal allowing the brain to withstand periods of anoxia four times longer than at 37°C. Renal function at 29°C is decreased one half although postoperative oliguria is relatively rare. Potassium excretion seems more impaired than that of sodium or water. (Thrombocytopenia and the disturbed calcium potassium ratio seem to prolong coagulation somewhat.) Blood pressure and pulse decline linearly with temperature down to 24°C after which the pressure falls rapidly. Coronary flow decreases precipitously from 37 to 33°C then levels off, appearing adequate at all temperatures. At 24°C, 74 per cent of patients show some form of arrhythmia, widened PR interval, ST segment depression and T wave inversion. Ventricular fibrillation is very prone to develop under 25°C. Respiration ceases at 28 and below 18°C electroencephalographic silence ensues. Temperatures below 24°C have not yet been explored in humans.

Production of the hypothermic state by any of several different methods is facilitated by a "lytic cocktail" of Demerol®, Phenergan® and chlorpromazine. The pervascular method of cooling removes blood from the arterial circulation, cools it in a coil and returns it to the venous side, thus obviating tissue necrosis and shivering with its concomitant increase in metabolism.

Various body cavities may be perfused with cold solutions. If the need for hypothermia arises after the pleural cavity has been opened it may be perfused with cold saline. In England early attempts to perfuse the stomach resulted in considerable loss of electrolytes until a plastic bag combined with a tube allowed heat transfer but kept the cold solution from direct contact with the gastric mucosa. The most widely employed method at present involves some form of body surface cooling, using blankets with circulating coils or immersion in ice water, once the patient has been anesthetized. Similar methods may be employed for rewarming once surgery has been completed.

Summary

Emphasizing the close relationship and interdependence of surgery and anesthesiology some of the more interesting advances of the past few years in anesthesia have been briefly described. These include new drugs for local and for general anesthesia, methods of monitoring a patient during operation, the use of muscle relaxants and lighter levels of anesthesia, narcotic and barbiturate antagonists, hypnosis, controlled hypotension and hypothermia.

References

1. Bonica, J. The Management of Pain, Lea & Fabiger 1953.
2. Artusio, J. F. Jr., J.A.M.A. 157:23 Jan. 1955 Ether Anelgesia During Major Surgery
3. Heller, M., Watson, T. R., Storrs, R. C. J.A.M.A. 161:1534-1542 Aug. 1956 Anelgesia with Nitrous oxide Oxygen and Curare for Major Surgery in the Poor Risk Patient
4. Kiersey, D. K., Faulconer, A., Bickford, R. G. Anesthesiology 15:356-364 July 1954 Automatic Electroencephalographic Control of Thiopental Anesthesia
5. Coakley, C. S., Alpert S., Boling, J. S. J.A.M.A. 161:1143-1144 July 1956 Circulatory Responses During Anesthesia of Patients on Rauwolfia Therapy
6. Kroger, W. S., DeLee, S. T. J.A.M.A. 163:442-449 Feb. 1957 The Use of Hypnoanesthesia for Caesarian Section and Hysterectomy
7. Bigelow, W. G., Lindsay, W. R., Greenwood, W. F. Ann. of Surg. 132:849 1956 Hypothermia, Its Possible Role in Cardiac Surgery
8. The Physiology of Induced Hypothermia, A Symposium National Academy of Sciences, National Research Council

22 Bramhall Street, Portland

One Approach To Mental Health In Northern New England*

EDWARD A. TYLER, M.D.**

. . . the first step which should be taken is the establishment of a long-range flexible program which sets up an outline for recommended expansion over the next decade. Once a tentative program is outlined, we can have a fair estimation of eventual cost and of personnel required. Then we can tackle the how of financing and the where of personnel.

In a free society, survival is dependent upon the relatively good mental health of its citizens. There is no activity, large or small, individual or group, work or play which is not markedly influenced by the mental health of all those involved. Therefore, it is fortunate that our country has become seriously concerned with improving the mental health of all its citizens.

This has made mental health, a public health problem of major proportions. For purposes of this discussion I shall break the problem down to three major areas: 1) finances 2) personnel 3) program; and consider the latter in some detail. I shall limit my comments on finances to stating that any adequate program will be expensive, and in the poorer states new sources of revenue will probably have to be found to support it. Concerning personnel, we shall certainly have our problems because we must import our psychiatrists, clinical psychologists, social workers, and psychiatric nurses. In Northern New England there are no facilities for the complete training of personnel in any of these fields. Although we would certainly find recruiting easier if we established some good training centers, I believe that with a good program and adequate financing, we could obtain the needed personnel.

In my opinion, the first step which should be taken is the establishment of a long-range flexible program which sets up an outline for recommended expansion over the next decade. Once a tentative program is outlined, we can have a fair estimation of eventual cost and of personnel required. Then we can tackle the how of financing and the where of personnel. Briefly, I shall outline a program which I feel might be quite effective, and not impossibly expensive.

As an area becomes mental health conscious, small programs begin to sprout. These range from educational lectures to community sponsored treatment clinics. Initially, they are usually set up to serve a specific group or geographic area. As those on the fringes are influenced, increased demand is made upon the existing service until it is over-taxed to such an extent that a near-by community sets up its own program. In the North Country some of these nuclei already exist. Further expansion now can be most serviceable and economically provided by some coordinated planning. Such planning, must consider the existing private, community or state facilities, the needs and desires of communities, and the ability of a community to provide financing and to attract personnel. A flexible centrally coordinated program would attempt to utilize and dovetail private and state supported facilities.

A mental health program has two major functions: prevention and mass treatment. Prevention calls for a long-range program whose results and benefits can only be appreciated over several generations. With our present limited knowledge in this area most of our efforts in prevention must still be directed towards research. Prevention research requires the personnel usually found only in universities with large social science departments that are able to obtain adequate financial grants from federal agencies or private foundations. Until such time as we have developed such research centers, I would suggest we import our ideas along with our personnel and concentrate on our treatment programs.

In my attempt to present a blueprint for treatment facilities, I should like to divide the potential patients into three over-lapping groups. I believe each of these groups can use a different type facility for help. In group A, would be those persons who can be helped to function rather adequately by a supportive relationship and superficial insight. In group B, would be those persons who need more intensive psychiatric help but can still live at home. In group C, would be those persons who for physical as well as mental problems must have their psychiatric treatment in a specialized environment.

Group A would contain, by far, the majority of the patients especially those with the best prognosis.

---

*Based on paper read at Annual Meeting of New Hampshire Psychological Association Meeting, New London, New Hampshire (Colby Junior College) April 21, 1956.

**Hitchcock Clinic, Hanover, New Hampshire.

When there are insufficient facilities to care for everyone needing help, the most unmanageable and incapacited patients are the most likely to be referred and least likely to be cast off without treatment. On the other hand the least incapacitated, at a fraction of the cost, offer by far the best opportunity for therapeutic success. Even more important, their influence on the society is much greater because they continue to function in their roles as fathers, mothers, employers, . . . statesmen, . . . teachers, . . . etc.

I believe a facility similar to a family service agency could help most persons in this group. It could be staffed by psychiatric social workers (Masters Degree level) and secretaries supplemented by a visiting team of psychiatrists and clinical psychologist. This type facility needs to be easily available and quite informal. Probably no one should be expected to travel more than 20 miles to seek its help. It should be independently staffed, housed, administered, and identified as a mental health facility and not a branch of the state's welfare program. The social worker would make her contacts, take her histories, and consult with the visiting team once each week. When she or the team felt the case warranted further investigation this could be done on the spot by the team. Those cases needing or desiring more intensive care could be referred to one of the facilities set up to deal with groups B and C.

Group B would contain less patients than A but several times more patients than C.

The facilities would be out-patient treatment centers, which should be able to provide definitive outpatient care to any patient, child or adult, in their service area. They could also serve as the follow-up clinics for the patients released from the facilities in group C, and provide the consulting teams for the nearby group A facilities. A consulting team that can refer cases to itself for definitive treatment is both more content and efficient than one which spends its entire time traveling. The treatment centers should be staffed by psychiatrists, clinical psychologists, and psychiatric social workers, all of whom could carry out diagnosis and treatment within the limits of their training and experience. These treatment centers should be within a 40 mile range of anyone wishing care. The size of a group A or B facility would be dependent on the population it served and the demand for service. Ideal location for these two types of units could best be determined by sociological survey.

The facilities to provide care for the patients in group C would include hospitals for adult psychotics, psychotic children, incapacitated neurotics and alcoholics; treatment homes for the severely disturbed non-psychotic children; training schools for the feeble-minded, blind, deaf, and the antisocial; rehabilitation centers; prisons; and a psychiatric service in all chronic disease institutions. (i.e. geriatrics, tuberculosis, crippled children, etc.) All of these facilities should be staffed by or regularly visited by consulting teams of psychiatrists, clinical psychologists, psychiatric social workers and psychiatric nurses. Psychiatrically trained educators would also be needed in some of these facilities. All of these facilities should be large enough in space and staff to accept upon relatively short notice all patients needing the care which they offer.

A statistical analysis of patients using current facilities would not justify such a program, however. When there are insufficient facilities to care for everyone needing help, the most unmanageable and incapacitated patients are the most likely to be referred and least likely to be cast off without treatment. On the other hand the least incapacitated, at a fraction of the cost, offer by far the best opportunity for therapeutic success. Even more important, their influence on the society is much greater because they continue to function in their roles as fathers, mothers, employers, executives, foremen, laborer, statesmen, politicians, teachers, physicians, lawyers, ministers, etc. The severely incapacitated neurotic and psychotic have frequently ceased to take an active role in life and have withdrawn into complete or relative isolation.

I am not suggesting that we should neglect the facilities for the treatment of the severely incapacitated, but rather that immediate expansion would more appropriately concern itself with the almost non-existent and more economical facilities for the treatment of the larger group of less disturbed and more treatable patients.

The strength of the program here outlined would be in the close liaison and coordination of all its facilities. It would attempt to utilize private practitioners and hospitals, V.A. Hospitals, colleges, community and state financed social work agencies, clinics and institutions in a single voluntary coordinated program. This would require a director who could command professional respect from all these and have no special loyalties to any. This director should not have specific duties in any facility if he is to have the adequate time and impartiality needed for this more than full-time job.

I wish to apologize for my brevity and over-simplification in dealing with the very complex problem of mental health in rural states. However, my primary purpose has been to stimulate your thinking rather than try to give you a final answer.

A Victory Over Aphasia Paralysis

HAMILTON CAMERON, M.D.

"A triumph of the will not a victory for medication: a vindication of the God given mental power that raises man above the beasts of the field. A planned and determined product of a trained intellect; not the result of a childlike faith transcending ignorance."

On Thursday, January 21, 1943, I heard the medical conclusion, — "asphasia, now total and complete." Belle was crying as the doctor went on, — "they live with partial recovery or die, or they show evidence of their general and special intellectual disorder and they are received by the city institution." And my wife was saying, — "Not that, doctor, I would rather see him dead," and, faced with the alternatives of paralysis, insanity, or death, all I could think was, — "I too!" Yet today I am well and alert; reading and writing, and walking and talking; and devoting myself to the cause of aphasics internationally. And my improvement has come from my own conclusions and work, which may be logical or illogical, clear or cloudy, as viewed from the pedestal of the scientist. But, always, I stand on my right to think and act on my own premise, to find the way and run around, under, or through, all accepted obstacles in the path of recovery.

It was as though I had indeed fallen heir to the mystic cloak of invisibility; seeing but not seen, hearing but not heard, and nowhere the substance of tactile or mobile sensations so manifest of life. But I could hear my wife and the doctor, and I realized that only my mind was living within the strict confines of a hopelessly inert body. For more than forty years, my life had been one of driving intensity, as doctor, manufacturer, sales executive, writer, editor, publisher, and radio philosopher. A gastric disturbance and a premonition had led me to medical advice and to the hospital, and I recalled, ruefully, Belle's chiding me about my talks to my radio listeners saying, — "Since your talks to the sick helped them, under these circumstances you are being challenged by your own philosophy."

I was stricken with coronary thrombosis, followed by cerebral embolism, which resulted in right hemiplegia and total aphasia combined with visual aphasia, that had stripped me of all but the receptive senses of sight and hearing. And was it pity for my wife or for self that brought tears to my eyes? I tried to cry out that I was here, that I was far from dead or crazy, and then my pity turned to anger toward the calm assured physician. Aphasia is *not* insanity! The absence of facial and oral expression does not, *de jure,* give a physician the right to make the diagnosis that an aphasia patient has lost his mind, because he is at a total disadvantage in the equitable appraisement of the patient's mental activities. How I could tell them, if only I could talk! And my immediate need, I knew, was restoration of the function of speech.

But how? It seems sometimes to me that I was born with a book in my hand, and I had early discovered a form of visual retention that had enabled me to review a needed text on a sort of mental slide projector. Many a night I had lain in the dark, with eyes tightly closed, conning the mentally opened pages of my volume on anatomy, for tomorrow's examination. I called on that facility out of the depths of my despair and the diagrammatic patterns of the human brain and nerve network were before me and I began the medical study or review of my physical condition. I wanted to have a chat with one of my medical friends but that was not possible. I must discuss the matter with myself. Is the mind only a function of the brain? Are the mental functions limited to physical laws? Are the associated processes in speech rehabilitation to be found in the brain or in the process of thinking, — in the mind? What part of the brain can be pointed to as the area or zone in which occurs the complete blocking of speech effort? And, as my mind ran on, I knew one answer. Defects in emissive speech are not in the mental oral function, that is, the "inner speech" within the mind, for my faculty of speech was functioning normally in my mind and this in spite of the physical disfunction of my voice. And the power that made this so was God implanted, that I firmly hold, generating an intensity of desire that could overcome pathological obstacles.

My thoughts in ensuing days were not always in this restrained objective vein, for there were cycles of extravagant roaring pain, and periods of overwhelming self pity when I considered the possible total disappearance of my understanding and comprehension. And there were the times when I gave my memory free rein on a roving commission, where I was the sole audience to the monodrama of my past life, of scenes here, there, and everywhere, irrelevant and anachronous. To the medical observer I knew, I gave no evidence of memory for the stroke had obliterated all facial and vocal expression. Yet,

I believe my conscious development, resulting from this stroke, proves the limitless territory in the faculty of memory, — that, following a stroke, memory knows no law. Everything I ever knew and experienced, all sensations, feelings, sensibilities, were retained. I found the capacity of my memory to be limited only by the degree of my determination to recollect, — my recognition, — and that my memory capacity expanded by lamination. This, despite *Von Monakow* who said "memory should be regarded as a dynamic function and not as a storehouse of images." All I had were pictorial images! And I remembered also the observation, — "there is nothing so elastic as the human mind."

And there were the days when Belle came and talked and tried to be cheerful, and my only response was tears. I was actually and literally isolated because of my lack of communication, and the consciousness of my inability was a terrible, sickening, harrowing sensation.

Still, within the glass house of my inner world, I returned again and again to the catechetical game, — the pastime of What-Why-When-Where? Mentally, I restudied my medical courses, reviewing all the mechanical phases of the problems I must solve for recovery — my immediate problem restoration of speech. The various definitions and answers to my self-imposed queries as to the localization of the mind within the body, from the physical to the metaphysical, were related only to what the mind *does,* not to what the mind *is.* There was no tangible remedy at my hand or in my medical books. The mind could not be localized in the body. The organization of the mind could not be mapped. I remembered one of my radio talks: "We start from a known premise that's almost universally accepted — in short, that only two things exist in all the universe — matter and mind — and, of course, since matter is inert and cannot originate force and motion, it follows that, *if* matter does move or exhibit force, that force *must* originate in the *Mind,* and that *mind* is the principle that animates." Without tangibles, the aphasic living in his inner world must then use intangible tools, his mental reconstruction work will be done with the intangibles, — belief, hope, and faith — belief, hope, and faith in the power of thought to rehabilitate. I knew, my mental power must transcend the physical. And to that end, I deliberately and consciously began the exercises of the muscles I must command, not by actual motion but, through my recollection of the functional needs, by sheer force of will.

But the pendulum continued to swing to and fro, from emotion to reason, — swinging over a pit of depression, a pit that was dug deeper and deeper by innumerable frustrations and disappointments. With the return of partial function, my left side, — an almost universal condition with aphasics who survive is the gross arm and leg movement retained on one side or the other, — I strove desperately to bring the opposing side into conformity. I remember, time after time, that this or that nurse reprimanded me, as she would an uncomprehending retarded child, when she found me entangled in the restraining bars at the sides of my bed, and I would suffer her to untangle me only to get back to it again. I knew full well what I was doing; it was the doctors and nurses who did not comprehend my purpose — willing and forcing my inert muscles to compliance. It took me two years and six months to successfully control the functions of my right arm and hand and at the end of full thirty-six months, at a hospital Christmas party, I mingled with the guests and I danced every dance.

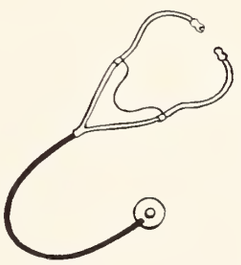
During those months it was not all smooth sailing. Doubts and fears, induced by pain and the regular rhythmic return of phases of glaring light and dinning noise that obliterated all reason, plagued me. If my reasoning was correct, and I was sure it was, why was the expected oral response so slow in coming? The catechetical game again! Is there a mental or physical check, a barrier, a dead wall that shackles the function of a faculty? Is it an emotion? What emotion? Is there a power in the emotion of fear that stops the function of a faculty? Is living without speech maintained by the permanent emotion of fear? Is it possible to deny, ignore, or kill the emotion of fear? Should you not look upon disfunction as a rest from action in restoration of that function? And I began to work on the muscles of my throat, willing myself to speak in the firm faith that what my mind willed I could do. Because the cerebral vascular accident had developed serious obstacles in the operation of physical functions, animation was only partially functioning my crippled body, but all the motion and the activity necessary to operate normally was potentially present. Impatience and fear were my only deterrents. It was fourteen months before I could pronounce the word "coffee", and it was two years later before I could pronounce the word "elevator". My mental function of the faculty of speech was normal but, in my unhappy physical condition, the actual function of speech was not supported by the transportation of my nervous system, so I was not able to talk normally for some time. I was walking. I had conquered the slap-heel action of my right foot. But the speed of my speech was not yet in ratio to my thinking. My thinking and hearing were not in ratio either. I couldn't repeat a phone number accurately and, every time, I knew I was repeating it incorrectly. Orally I said one thing while thinking another. When I first tried my typewriter, "immediate" came out "immntamayx." For eight months I had "visual aphasia," resulting in the loss of my understanding and comprehension in reading. Its continuance, beyond the almost complete return of other functions, can only be described as living in a very special corner of hell. It was after I had left

the hospital and was established in my own apartment, — by conscious and consistent effort I had won my way through to the ability to walk, to go shopping, to conduct business, to talk on the telephone, all in the outward appearance of a normal unhandicapped person, — when my cup became full, as I opened a book and, while staring at a page, I felt the cause of my visual aphasia dissolve, understanding and comprehension returned and, once again, the world of books was mine.

It was in the early days of my effort at restoring my speech, before I had even evolved a plan of action, that I recognized the dire plight of the aphasic without some means of communication. I knew the aphasia pattern and the always free function of one hand. It was on the fifth day of my stroke and my eleventh day in the hospital, a Sunday afternoon, that I began to evolve my code of hand sign communication. I firmly implanted on my memory, that day, the first three of these, — two fingers up — "no;" three fingers up — "yes;" four fingers up with thumb folded under — "I understand." Within four weeks I had developed the entire twenty hand signs but it was two and a half years before I was able to express them orally for an artist to make drawings. Today, known as the "Hand Talking Chart," it is proved as a practical clinical aid and is used in hospitals on an international scale; my personal contribution to aphasics, of which I have been one.

Every aphasic has in his mental file the intangible assets of belief and faith, and like my mental file it may, at first, be locked. It is the strength of will, based on the strength of desire, that will unlock it. It has been said that the weak-willed person cannot give up bad habits. That premise is incorrect because the will is the power we possess of selecting and choosing — it is the power which enables us to select a goal, or choose a purpose or habit. So it is up to our desires; they can be for good or for bad. The motto for all aphasics should be, — *Nil desperandum — Labor omnia vincit,* "Never despair — Labor conquers all things." Be patient and persevere. Let not the hellish physical and mental sensations and feelings, the pains, the motor and sensory aphasia conditions, and the fear of failure, destroy that desire and that will to use to the full the God implanted power within you. When you've actually lived through a cerebral vascular accident, and re-established your affairs and rehabilitated yourself physically, do you think that anyone could possibly convince *you* that there is not a "power within," a power that may enable us all to survive "great dangers and desperate situations?"

Editor's Note: For gratis copies of the 'Hand Talking Chart' address, Hamilton Cameron, M.D., 601 West 110 St., New York 25, N. Y.



The Federal Government And Medical Care*

FRANK M. COFFIN**

The truth is that by your very excellence in reducing infant mortality and increasing life expectancy, you have helped create a problem of massive proportions. By 1975 we shall have a population in this country of about 225 million, of whom 21 million will be over 65 years of age.

Modern medicine is a mansion of many rooms. It is not an example of architectural symmetry, because it was not built all at once. Rooms, wings, and ells are constantly being added, as research reveals new areas of useful service. Some of the rooms in this mansion have been little used. Tonight I want to visit one of these rooms. It is one of the oldest, but it has never been plastered, and the flooring is not even laid. It is a room bearing a corroded old nameplate: "Medical Care for the Aged."

I do not pretend to speak to you as one with special knowledge in this area. But I do speak to you as a member of a group which has an interest in seeing this room put in habitable condition. In a sense, as a practitioner of general politics, I am a partner in the bonding company and you are partners in the firm of general contractors which has the job of completing the mansion. Only if you default do we have the task of seeing that the job is done. But, like any good bonding company, we have more than a passing interest in seeing how the work is coming along. And, like the bonding company, we prefer to have you do as much of the job as possible without us.

The truth is that by your very excellence in reducing infant mortality and increasing life expectancy, you have helped create a problem of massive proportions. By 1975 we shall have a population in this country of about 225 million, of whom 21 million will be over 65 years of age. We already have 15 million. This is 8.8% of the population. In Maine our percentage is 10.8% with almost 100,000 persons in this age group. In our State we are actually 20% ahead of the country's average. This is the group that requires twice the length of the average stay in a hospital, suffers 8 to 9 times the rate of chronic disabling sickness of those in their twenties and thirties, and has a 43% greater demand for physicians' and hospital services than the population at large.

We hear the term "population explosion" and think of it generally as posing only a problem in education. But the same facts and the same trends are building up into an equal explosion of elderly people. Although the "fallout" from this explosion is economic and psychological, as well as medical, the medical profession must occupy a central position in both the analysis of the problem and in the construction of solutions. Many skills will be needed, but the medical skill must be central.

Although I have spoken in terms of an explosion, we are fortunate that what is happening is not quite that traumatic. We are facing a remorseless buildup, year after year. The accumulating problems faced by the aged are in the nature of a creeping crisis. This gives us some time, a short time, to take action in other fields than the purely economic and the purely political. Sometimes events occur with such suddenness that there is no time to seek other solutions. The depression of the thirties compelled dramatic government action in the fields of unemployment compensation, old age benefits, and securities regulation. Sputnik forced major revisions in defense policy and reorganization. What is happening in the field of providing for a continuing right adjustment of the aging to the world around them (I like this phrase better than "care for the aging") is similar to that in the field of education. Although there is a serious problem, there is no force of circumstances which compels precipitate action.

Yet, with over 400 bills relating to social security legislation pending in the House Ways and Means Committee, which has just started public hearings, the time is perhaps shorter than we think.

How far have we gone toward seeking solutions?

I think we have gone through three stages. At the outset I must admit that, as I have perused the materials made available to me from the medical profession, from the Federal and state governments, and from other groups, the number of original or stimu-

*Presented at the 105th Annual Session of The Maine Medical Association at Rockland, June, 1958.

**Representative (D. 2nd. Me.)

lating articles is not so large as I had expected. The bookshelf on the aged is a sparse, little one compared with the many shelves stocked with books and articles on child care.

The first step, and an important one, is the admission that there does exist a problem, and that we really do not have all the information that we should have. I am speaking of such information as figures on frequency and duration of illness, types of illness, and the geographical distribution of illness. Even the Joint Council to Improve the Health Care of the Aged, composed of the ADA, AHA, AMA, and American Nursing Home Association, admits that up-to-date information is not available.

We have gone beyond this stage to the point where a certain amount of activity has taken place in the form of conferences, workshops, and the formation of committees in some 31 states. In our own state we have had a state committee on aging for five years, which in 1954 and in 1956 published two fine reports. Your Maine Medical Association is undoubtedly ahead of most states in having set up a special Committee on the Aging.

A third plateau has been reached by the creation of the Joint Council to which I have just referred. The objectives of this group are (1) "to identify and analyze the health needs of the aging," (2) "to appraise available health resources," and (3) "to develop programs to foster the best possible health care for the aging regardless of their economic status."

The question which must be raised, notwithstanding the progress that has been made, is whether this is enough of a response to the need, whether there are other actions that must reasonably be taken. Even as we talk tonight there must exist in many homes and in many hospital beds a quiet but real desperation. Were this recession to continue or to deepen, this desperation would become even more vocal. Should this happen, very surely other steps would be taken, without the background of research which is clearly desirable.

We would be prudent to press our explorations beyond the recognition of the problem, beyond study groups and workshops, beyond attempts at gathering the facts and education. Without attempting to prescribe a remedy, I shall suggest some directions in which we might search for added solutions. I use the term "solutions" in an inaccurate sense. I doubt if any one device or program will in itself be a solution; only a complex of approaches on various levels will add up to a real solution.

One level of action is undoubtedly the Federal level. Here there is room for added effort by the existing Interagency Council on the Aging in the realm simply of coordinating present information, not only about the nature of the problem but what is being done in the various states concerning approaches to it. One cannot but be impressed with the number of experiments, pilot projects, questionnaires, clinics, age centers, community centers, research projects, geriatrics training, nursing home innovations, vocational counselling, hospital activities, and nursing programs that are being tried out in many communities and states. But I have the uneasy feeling that there is little effective tying together, analysis, appraisal and dissemination of this varied experience. This is something which could be done to an increasing degree by the Interagency Council of the Federal Government.

There has been proposed legislation and discussion concerning a White House Conference on the Aging. Under this proposal the National Conference would be preceded by conferences in every one of the 54 states and territories. The White House Conference might not be a major vehicle for action, but it would certainly have the merit of bringing together the experiences and knowledge that have been acquired since the first national conference of the aging held in 1950. Certainly, the White House Conferences on children and youth which have been held every year since 1909, have proven themselves worthwhile, as has the White House Conference on Education.

I must admit that I am not impressed by the testimony of Assistant Labor Secretary Newell Brown that, since conferences of various types are being held, "there is a strong case for believing" that we should merely allow the President to decide "the time and subject matter" for further conferences.

Going beyond the temporary event of a White House Conference, we might well give serious thought to recognizing the stature of the problem by establishing a structure within the Federal government to give continuing specialized professional attention to it. At present all we have is the Interagency Council on Aging, which is made up of members who have a primary responsibility to their own agency. Problems of the aging are really extracurricular.

This agency, which is our chief vehicle for focusing Federal attention on these problems, has no staff, no funds, and meets only once a month, except during the summer when it does not meet at all. When it does meet it tries to parcel out tasks to various individuals who already have full time jobs in their own departments. Moreover, the process of persuading these departments to contribute even modest sums for literature and other expenses is like getting ink out of a post office pen. I submit that this approach to a vital area of human need belongs back in the days when your forerunners used blood letting as a universal remedy.

It is after all, a measure of our indifference that while we have over 40,000 Federal employees struggling with the problems of the nation's business concerns, we have less than a dozen people on the staff of the Secretary of Health, Education and Welfare assigned to the problems of the nation's 15,000,000 senior citizens. Again I am far from impressed with

the Administration's opposition to a separate bureau on grounds that while it might prove valuable later on, this is not the time to set one up.

Even more difficult to understand is this recent statement of an assistant to HEW Secretary Folsom on establishing such a bureau. Secretary Folsom's assistant told a House Committee:

> "This in essence could result in a centralization of existing services and an abrogation of the sound principle of functional and decentralized organization utilizing the manifold resources inside and outside the Federal government."

If you strip the jargon away, what he is saying is that it is better to solve the problem of the aged by leaving it to a lot of unorganized people thrashing about without knowing where they are going or what the others are doing It certainly was not the reasoning used when we came to reorganizing the defense establishment. It was certainly not the dominant theory when we were foresighted enough to establish a Federal Children's Bureau a quarter of a century ago.

On the state level, in addition to your Association's Committee on the Aging, the State Committee has recently been provided an Executive Secretary and is, I believe, moving steadily toward stimulating greater community interest, educational research through the schools and colleges and increased employment opportunity for our elder citizens. The work of your Committee and the State Committee might ultimately lead to serious consideration of including in our own State Department of Health and Welfare a division devoted to the problems of the aged as has been done in Connecticut.

Here in Maine you have both a heavy obligation and an enviable opportunity. Your practice comprises a large proportion of both elderly and rural patients. The problems of rural medicine and the aged are overlapping and often interdependent. Doctors in no other state have a better opportunity to pioneer in these twin fields. An example of good work already being done in both these areas is the idea for expanding the Hill-Burton Act to make it possible for private citizens to erect diagnostic treatment centers in rural communities. Dr. Hanley of your Association and Dr. Leon Lezer of the University of Vermont Medical School have done a remarkably creative job in exploring this idea and in presenting it to the House Subcommittee in connection with legislation which I have introduced. Although the primary motive was the attraction of good doctors to rural communities, this type of facility could not fail to be of major service in the field of caring for the aged. Just as northern New England has taken the lead in this type of activity, so could it point the way to other practicable ways of approaching the problems of elderly people in small communities.

On the national level, I have the impression that the medical fraternity tends somewhat to interest itself — at least in its work with Congress — in issues in which it has an immediate and obvious stake. One of these, for example, is the Forand bill to provide hospitalization and care for recipients of Old Age and Survivors Insurance benefits. It is only one of the 400 or more bills before us on broadening the Social Security Act. There is a host of other proposals concerning reduction of the age of Social Security beneficiaries; increased earnings without loss of Old Age Survivors Insurance; the proposal I have mentioned for a Bureau of Older Persons; programs for public housing and special home building credit facilities for the aging — all needing the informed opinion of medical men. We in Congress are very much aware that the AMA is opposed to the Forand bill. But it would be most helpful if we knew its views on many of the other major proposals which we must evaluate and on which we must pass judgment. Most of these proposals brought to Congress are in response to public needs, expressed to us in varying degrees and in different ways. Your profession has a real service to perform in assisting us to measure the depth and breadth of the needs and to propose alternative ways of meeting them.

Now I know what will go through your heads when you reflect on these remarks. You will admit that there is a need for doing more fact finding, analysis, creative thinking, and proposing in this important area. But you will think, as you gulp your morning coffee, facing a round of early morning calls, some touchy operations in the hospital, a sandwich at 1 p.m., and an endless stream of patients in the afternoon, with meetings, or calls, or both at night, with the tantalizing promise of a birth or two at midnight and 2 a.m. . . . "just how does the Congressman think we have time for these things?"

I don't really know how to answer that question except to say that to make some time for such things is just as vital to you as any other thing you do, if you want to continue to practice your profession free of unreasonable governmental annoyances. It is almost as important as keeping up with your medical journals. The need is becoming more obvious for effective action to solve the many related problems faced by older people. If you do not indulge in reflective thought and positive action, you will lose the initiative that should be yours.

It may be said that a civilization may be judged by the manner in which it shows concern for the problems of all of us as we grow older. It is a measure of the regard in which your profession is held when I say that much of the burden of this responsibility lies on you.

Practice Planning For Greater Income*

GEORGE W. CONDIT**

If yours is a representative practice you have probably been providing medical services on a "catch-as-you-can" basis. As long as the public asks for your service you have obliged by putting in longer hours . . . this constant effort on your part to meet, to the best of your ability, the never-ending demand for your services . . . has produced the occupational stress with which you are probably contending . . . you CAN maintain, and even implement your practice momentum without intensifying or increasing the physical effort you are now expending.

The most important assignment, when one is invited to speak before such a distinguished gathering, is to select a topic that will attract universal interest, and can be applied by each individual in the audience to problems with which he is confronted. A medical administrative consultant, or economist, in addressing you does not need to limit himself to the pragmatic — but fascinating — subject of making more money. He can invite you for instance, and attempt to awaken your interest in improving your procedures. He can suggest certain goals to which you might worthily strive — the goal say of keeping better records. From such a discussion you might be lead to evaluate your present history form. This in turn can lead you to consider using a check off form for the initial history-taking. After looking over the many different types, you might end up designing your own. You will probably want to consider the pros and cons of a numerical versus an alphabetical filing system. You will likely evaluate the Cornell Medical Index — where a questionnaire is presented to the new patient, on his arrival, for him to fill out. Those of you that use it will find the CMI is a sizable time-saver, and quite likely will provide the means of taking a more complete and comprehensive history.

From the stimulation of getting into such a project, you might see the need of replacing your old history files with modern, fingertip control, suspension units. You might find it desirable to switch over to a Pendaflex system, where the folders are supported by hooks that ride on side rails in the drawers . . . thereby overcoming the appearance of the typical overcrowded filing system. There will be the task of segregating your inactive cases from your active ones, and storing them in some out-of-the-way location. You will probably think at least about putting your patient findings on to your dictating machine, so that the charts can be neatly typed and made more presentable . . . Yes, here would be a worthy project that might be introduced to you which would require a number of months' concentrated attention. The end result would be a greater ease of operation, and a saving of valuable time.

Or, you *might* have as a goal the elimination of patients overcrowding your waiting room, and here again well qualified guidance is helpful. It will require you to change over to a full fledged appointment system. There will be the problem of finding ways to educate your patients. How to get them to change their habits so that they will not feel free to drop into your office at any time during office hours, or in off-hours, and expect to be seen. I would like to say at this point that expert appointment-making is not a skill universally enjoyed by all secretaries. In order to realize her potentialities in this area a girl must be alert, intelligent, and able to make the right decisions quickly — almost intuitively. She must have a sense of empathy — one of the most valuable qualities with which anyone can be blessed. She must be quietly persuasive and convincing, where the wishes of the patient do not coincide with the time allotments that are available. Almost inevitably, when one comes across an office in which there is a continual hubbub, it is the appointment-making department where improvement is most desperately needed.

Yes, there are a number of goals to which an audience such as the one I have the honor of addressing can be introduced, besides the worthy one of making more money; each one, incidentally, doing its share to make the practice of making medicine more enjoyable, and strangely enough the need for financial reward is taken care of in the process.

With your permission, though, I would like to devote my attention to areas that will help to reduce the strain with which you are confronted. I would

---

*Presented at the 105th Annual Session of the Maine Medical Association at Rockland, June, 1958, under the auspices of The Wm. S. Merrell Company.

**Medical Management Consultant, New York.

like to suggest your becoming involved in a little PRACTICE PLANNING. From experience, I can promise you that it will pay you attractive dividends, dollar-wise and time-wise. It will give you a target at which you can aim your ammunition. It will give you a sense of direction.

If yours is a representative practice you have probably been providing medical services on a "catch-as-you-can" basis. As long as the public asks for your service you have obliged by putting in longer hours and working a little harder. It is this constant effort on your part to meet, to the best of your ability, the never-ending demand for your services that has produced the occupational stress with which you are probably contending.

Let us see if we cannot escape all this hurly burly by considering a different way of practicing medicine. First of all we must do some planning. We must determine what our objectives are, and then see if there aren't ways of realizing them. So, let us do the following things in the time we have available.

1. Decide what our income requirements will be for the next twelve months in order to maintain our required standard of living.
2. We will be required to consider how much productive time will be available during the coming year.
3. We will need to know the number of patients we must schedule in order to meet this financial requirement.
4. We will devise ways by which the overload of patients can be handled, if we are confronted with such a condition.
5. We will think of ways and procedures that will help to reduce the office confusion and turmoil.
6. Finally, we will give some thought as to ways by which we can be freed of your present non-professional details.

From such a discussion we should come up with some concrete suggestions that will provide a general relaxing of the demands medicine has been placing upon you.

Our first assignment is to determine what our income requirements will be for the next twelve months.

To begin with we must find out what it has cost us to operate the practice for the past five years. We do not have any financial statements that we can depend upon for this information? O.K., but we will have to do something about this in the future. However, let's get our income tax returns. After scaling down the amounts we have allowed for automobile, business advancement, travel and conventions, and various other items that are acceptable from an income tax point of view, we arrive at an amount that represents the annual cost of practicing medicine — after we have averaged the past five years.

Then, we must do some evaluating as to what it has cost us to live during the past year. After amortizing the cost of our home according to the mortgage payments with which we are confronted, adding our real estate taxes, interest expenses, life insurance premiums, other insurance expenses, personal taxes, food, clothing, medical expenses, vacations and hobbies, educational outlay, entertainment, investments, and normal out of pocket drainage, we should then do a little projection into the future. Will there be expenses with which we were not confronted last year? How much additional should we figure for educational expenses? One of the laws of life is that each day he grows older a child is an increasing expensive investment. Also, we should add a "Rainy Day" fund that will be required whenever emergencies arise. This should represent 2 or 3 months of our net earnings. After we have accumulated all such figures, when added to the costs of practicing medicine, we will have a figure that represents the amount needed to maintain our present standard of living. We have now decided what the income requirement will be for the next twelve months. Let us provide a figure at this point and say that we will need to earn $42,500. This projected amount, incidentally, is purposely set at a higher amount than the average earnings for this area. The doctor who needs planning most badly is the one who is most severely pressed for time. So, we have taken an hypothetical practice where the doctor is at the peak income period of his career, and one whose income requirements are such that it must be maintained. The same principles would apply if our case study made one-half the amount we have taken, and the benefits accruing would be equally worthwhile for the doctor with a more modest income.

Our second task is to arrive at the amount of productive time we can count upon for the next year.

Do you take a day off each week? If so, that day plus Saturday afternoons and Sundays — times you are away from the office — will need to be deducted. Let us plan on a month's vacation. There will then be 48 weeks that the office will be open — figuring 4½ working days per week in the office will mean that we will have 216 productive days. Deducting 7 holidays, gives us 209 days that we will have office hours.

Thirdly, we must determine the number of patients we should see in order to meet our financial requirements.

In order to do this, it will be necessary to determine the amount of income that we will receive outside the office. This will be the amount we receive for house calls, outside consultations, deliveries, hospital visits, and operations. To get this figure we will have to do some digging through our records for the past year. It will be worth the effort, though, to get this amount. On deliveries we will consider 1/3 the amount of our fee as "out-of-office" income.

This figure will vary greatly according to our medical specialty. Let us say that ours is general medicine; with the ordinary amount of house calls, and with a proclivity for surgery a substantial amount will be coming from operative procedures. For the purpose of this talk let us say this amounts to $17,500. This leaves $25,000 that must be earned in the office. Now to transfer our figures into smaller units.

The amount of time spent in the office will depend on the specialty. Suppose our schedule allows hours from 1 to 5 p.m. Every other evening we have hours from 7 to 9 p.m. Our afternoon hours over a year's time will amount to 836. Our evening hours to 209. Dividing this accumulated figure into $25,000 we know that we must earn a few cents less than $24 each hour our office is open for business. This amount can come from professional, as well as ancillary services — such as laboratory, X-Ray, diathermy, injections, etc. In totalling up these latter income areas we find we can expect $10 per hour from them. This shows us that for *our* time we must receive $14 per hour. Figuring our credit and collection losses, let us figure on being required to bring in $16 per office-hour day. This will mean that $4 must be earned for every 15 minute appointment.

In figuring out what your unit charge must be it is very possible that it will be too high for your particular community. To bring it down you must do one of the following:

1. Scale down your income target to a lower level.
2. Decrease your appointment time from say 15 minutes to 10 minutes.
3. Increase your office hour time.
4. Find other sources of ancillary income.

At this point I would like to stress that you ARE in private — not in public practice. The freedom of choice is still yours as to the number of patients you will treat in an hour, or in a day. Those appointments that exceed your established quota can either be referred to an alternate whose time is not so completely taken (we will get into this a little later when we discuss professional assistance), or such individuals can be given time on the first day your schedule permits.

Crowding additional patients into an already heavy schedule will only compound office confusion, cause a general running of hither and thither in an attempt to catch up on lost time, provide a more likely atmosphere for the making of mistakes, and tend to emphasize a quantitative, not a qualitative, type of medicine.

It will therefore be imperative, after we have arrived at the number of patients we can see in an hour, and in a day, to INSIST THAT OUR APPOINTMENTMAKER NEVER EXCEEDS THIS AMOUNT.

We will have to give her our constant backing if this policy is to stick. Also, she must have complete authority in this area. If we are ever guilty of "crossing her up" by telling a patient that we happen to meet on the street to "drop into the office tomorrow afternoon, and we will have a look at the dressing" we will promise never to do it again, and make our amends by getting her a box of chocolates! Instead, to such a patient we will say, "will you call my secretary for an appointment? Tell her I'd like to see you as soon as possible."

Now, if we are getting into an expensive period during our life that will require more earnings than the practice has been previously providing us, it will be necessary to scale up the income in order to come sufficiently close to the target we have set. It MIGHT be necessary for us to look at the fees we have been charging with a critical eye. Perhaps we don't charge enough for our initial visit, considering the amount of time we devote to it. Quite likely some of our surgical fees are out of line with each other, and need adjustment upward. What about the post ops we have been doing? Are they extended out over too long a period of time after surgery?

Another area we should explore: Have we been overlooking in the past certain ancillary services, from which we might receive income? It's a strange thing, and rather ironic, but a cold piece of metallic equipment will seem to make a greater impression on the public than even expert diagnosis. "You should see my doctor's office! Why he's got a new machine that he calls a Medcosonolator. It's one of those supersonic therapy machines . . . only one of its kind in town. You really should try it out on your bursitis, my dear! I can't tell you how it helped MY back!" And so forth, ad infinitum. A new type electrocardiograph or BMR machine, when first in the community, is a definite practice stimulator.

In thinking of ways of scaling up our income leads us to the fourth area we should explore, if we are to find a greater ease of operation:

This is to provide the medical facilities that can handle any overload of patients without it being necessary to channel them through our consulting room.

A current, and developing trend in medicine today is the growth of two-man partnerships. Some prognosticators are predicting that over 50% of our private physicians will be in this type of medicine within the next generation, or so. Here is a way that we can arrive at a more orderly type of existence, and improve your dollar income at the same time.

You are charting a typical career pattern if your practice tends to outgrow your individual capacity to handle it. Those of you in your middle 50's, or early 60's, possibly have driven away thousands of dollars in potential income by giving your house calls, and week-end coverage to worthy beginning physicans. Or, not being able to see people as quickly as they feel they should be seen has meant their going elsewhere . . . with the loss of some excellent patients.

If, at this stage of your career, you were to take on a well trained, beginning doctor and work out a satisfactory financial arrangement with him, your practice would not need to lose this source of income.

Let us linger for a moment over the kind of agreement you work out with a beginner. The most prevalent arrangement is for the older doctor to let the starting doctor have a place to see his patients. The understanding usually is that the younger man will take over the house calls, particularly at night, and provide weekend coverage. On the surface this would appear to be a very satisfactory arrangement for both parties. But is it? Well, let's see.

In the first place, it is only an interim arrangement. Nothing is settled concerning eventual retirement of the older man, or his disability, or death. It is purely a "companionate marriage" arrived at for the convenience and temporary enjoyment of both parties. Neither one commits himself as to the future. The senior avoids any discussion of their future relationship . . . the younger man makes no promises as to how long it will be before he can afford having an office of his own, nor how long it will be all right as far as he is concerned to handle the other's marginal cases.

It is a sad fact that many such arrangements end on a sour note. This is true even though the older doctor is really in many cases overly generous by turning over all of the income to the younger one who makes the visit. And where the younger doctor is exceedingly solicitous in not weaning patients away, and perfectly willing to be available at any hour day or night. Ungrateful, charges the established doctor, remembering all that was done to help the other get a start. Exploiter, counter-attacks the other, "I'm tired of doing the scut work around here! Let him get someone else."

Because of lack of planning, many excellent opportunities were muffed . . . and valuable time was lost, because the original agreement that was entered into was not carefully, or sufficiently thought out; and neither party sufficiently explored the situation to see if they both might not be better benefited by some other type of understanding.

If it is possible, the best basis will be to pay him a salary, plus an incentive bonus — so that when his earnings exceed his draw he will receive a share of the excess amount. Inasmuch as his earnings will go into the office account, the assistant will ordinarily pay his way surprisingly fast.

Any such employer-employee arrangement should be formalized into writing, and prepared by an attorney. Even though this trial period is only to last one or two years — preferably the former — it is good planning to think of eventualities, such as disability or death of the senior man. Any such provision should be included in the employment contract.

The foregoing "engagement period" should lead to a "partnership marriage" or an agreement for each to go his separate way. In order to have a feeling of security the younger man needs this assurance that there is serious intent to have the practice become a joint enterprise eventually. So many times the matter is never specifically clarified. The senior man might have in mind an eventual partnership, and even hint at such an eventuality to his associate. But because each is dependent on his own efforts, instead of their gradually functioning as a medical team, with an increasing tendency to interchange patients — or as much as circumstances will permit — their courses so often tend to diverge, with each man going his separate way.

If partnership medicine attracts you, and you are seriously interested in its possibilities, it will be wise to choose your eventual partner with considerable care and deliberation. An area you might well investigate is to see how well his spouse and yours manage to strike it off. You will be effected by any bad habits that he might have — such as excessive drinking, or addiction. Mannerisms that might only be minor irritations on chance acquaintance can be murderous in a closer relationship.

Ordinarily junior-senior partnerships (with the former getting an increasingly larger slice of the net income for a period of from 5 to 10 years, at which time the division is equal) have a better chance for success than similar arrangements between two established practitioners, with each expecting an equal share of the net income. When two doctors of a comparable age become partners it means that both will be reaching their peak period of productivity at approximately the same time. This is not good, because both parties will be interested in tapering off their load at about the same period. Also, the possibility of personality conflict is intensified when both parties have an equal status right from the start.

Let us now look at a partnership from as many angles as possible. First of all, we will see what it has to offer the younger man. Then we will see how it "fits across the shoulders" as far as the senior member is concerned.

As all of you are aware I am sure, getting started in medicine today is not the grim affair it was 20 or 30 years ago. Yet, it STILL is up to the beginner to develop his own contacts, to make his hospital connections, and finally, to allow time to do its subtle work of nurturing the roots that are going down into the community. This is not accomplished overnight. However, by associating with an active, busy colleague, this period of slow, quiet growth can be avoided. When a doctor reaches the point that he is seriously interested in finding a professional assistant, it means that he is contending with a burgeoning practice. Through introduction, and association, the patients will gradually come to accept the services of either physician, if circumstances require a substitute. The greater their trust in the older man, the readier they are to accept the "Young Doc," who *must* be good, or their doctor wouldn't have him

there in the first place. Also, working closely and intimately with an older man — who has certainly learned as much since he got his degree as he did while getting it — is a wonderful way of picking up techniques and procedures almost by osmosis. This requires genuine ability on the part of the mentor. Joining with an established doctor, first as an assignment-associate, and then as a junior partner, can mean that a beginning doctor does not need to mortgage his future to get started in his career. He will have a place all set up for him to see patients the moment he wishes to get started — *and they will be waiting to be seen!*

A medical partnership can be just as attractive to the overworked practitioner. It can mean that instead of having to choke off the growth of his practice, he can encourage it to grow, and watch it expand without his being required to assume a greater burden. He will, almost always, be able to realize an increase in his earnings without an equivalent jump in his operating costs. A successful partnership can provide him with a way of maintaining his income during a period of gradual semi-retirement. Finally, and the clincher in making a partnership attractive to him, it will mean that either he or his estate can more profitably dispose of his equity in event of his retirement or death. Business insurance, or some other provision in the partnership contract will adequately compensate the estate for the decedent's goodwill, as well as for his share of the physical assets. This is usually substantial, and is something that the estate of a solo practitioner rarely realizes.

Are there any negative aspects of going into partnership? Yes, there can be. For one thing you are limiting your freedom of action, just as you do when you enter the holy bonds of matrimony. If there is any possibility of eventual rivalry developing between the partners, or their wives, it would be better to continue on in solo medicine. If one's personality is the kind whereby he gets a great sense of personal satisfaction out of seeing what he can individually accomplish, as a result of his own efforts — without the help of anyone else — it is very likely that such a person will be happier by going it alone.

In looking over the matter from all sides, a partnership can be very well worth investigating IF you can find someone with whom you can team up, and will feel comfortable working in harness together. It should be someone whose work habits are not too different from your own . . . a race horse you know finds it very difficult to be in harness with a plodding, slow-moving teammate. And, finally, if you can find someone whose age is just right for your own requirements.

Let us now proceed along in our practice planning and get into the fifth area: *devising ways and methods to reduce the general office confusion.*

As you are well aware, there is unconscious strain and tension produced by noise. Anyone who has contended with an air-hammer beneath his window for the better part of a day, will go home exhausted from the effort of twiddling his thumbs. The average medical office needs some concentrated attention given to it in finding ways to reduce noise and unnecessary sounds. Some of the things that can be done are:

*A greater use of soundproofing of the walls and ceilings, especially in the front office, and waiting room.

*Installing carpet runners in the passage ways.

*Avoiding linoleum in the waiting room, and elsewhere. Using instead, wall-to-wall carpeting in such areas.

*Partitioning the secretary's quarters from the waiting room.

*Installing a "Hughaphone" on to your secretary's phone, and seeing that she learns to talk into it properly, so that her voice cannot be overheard a few feet away.

*The use of an intercommunicating system, especially between the consulting room and the secretary's station. Many offices depend on their phones for this use. However, many times the phone is in use when you need an intercom most badly.

*A generous use of telephone extensions.

There are various inter-office forms that will do their share in helping to provide a well organized office — one that has a minimum of confusion. For instance, a charge slip will be an appreciable help in the following ways:

1. It will improve your cash payments at the desk, which in turn will reduce your postings and preparing of statements at the end of the month. By having it a routine procedure for the departing patient to take this slip to the front desk on his way out, the secretary can call his attention to the day's charge and ask him how he wishes to handle the matter.

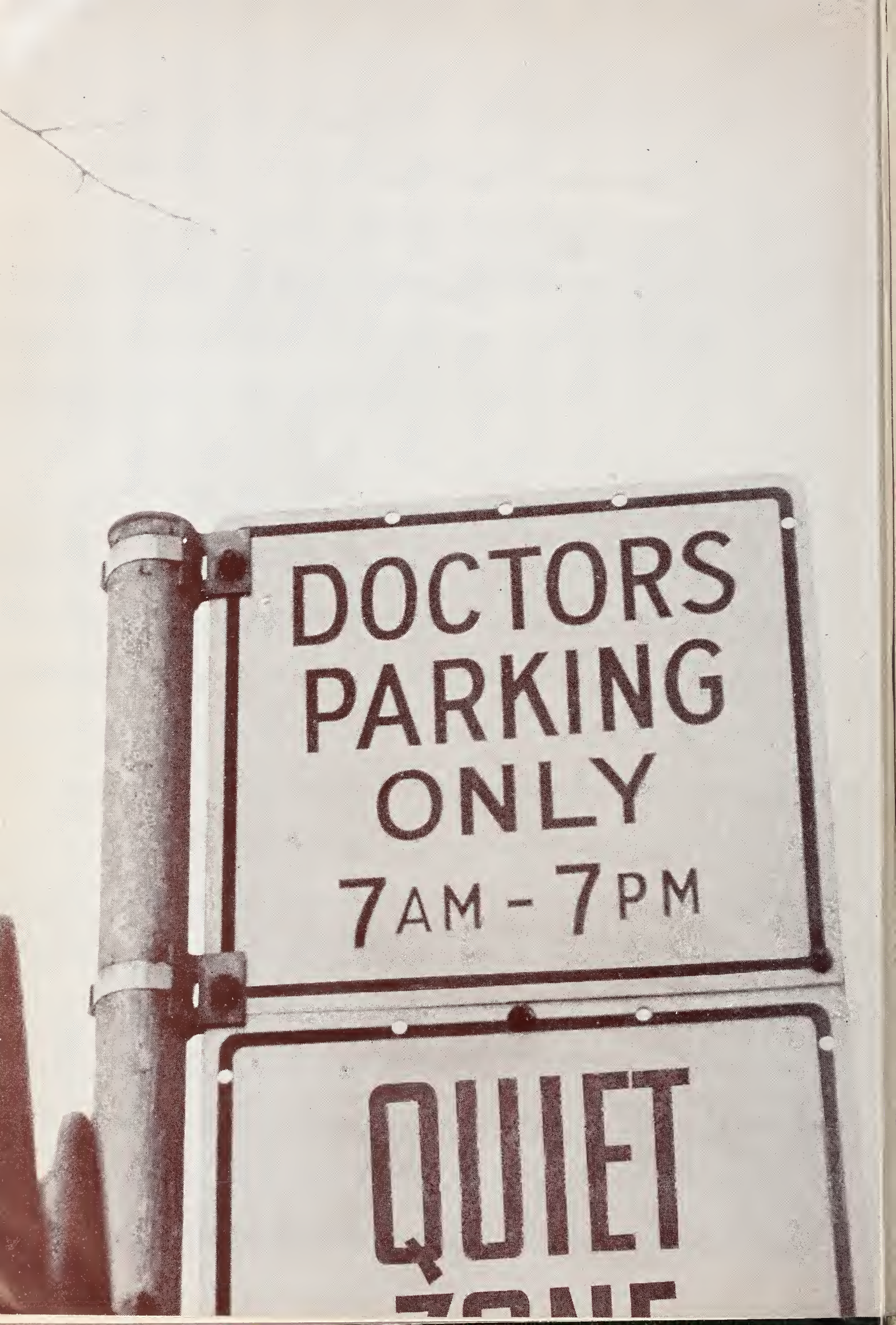
2. By noting on the slip the approximate time for the next visit there will be a greater volume of appointments given. This in turn will tend to improve your volume.

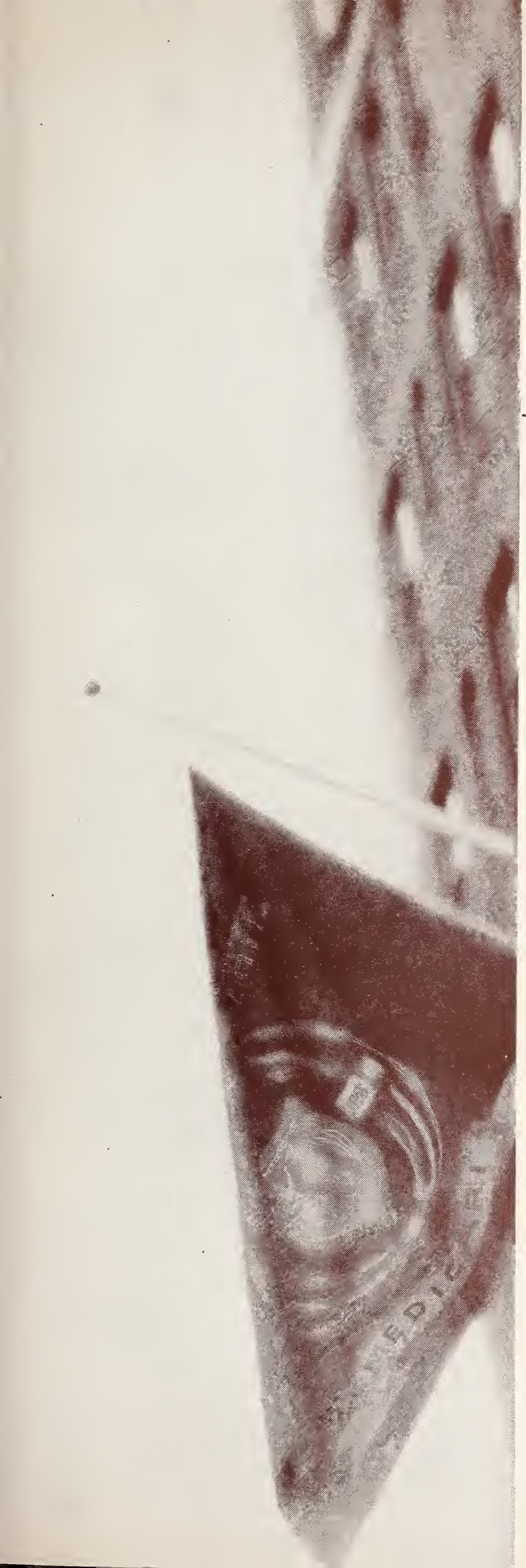
3. By letting the patient see what the charges are at the time the services are rendered, any potential difference of opinion concerning the amount or the nature of the fee, will be straightened out, without delay.

4. By getting your charge slips "machine numbered" in sequence when they are printed, and insisting that every charge posted to your accounts receivable has a corresponding charge slip prepared it will mean (when these slips are filed numerically in a separate file drawer) that your office has one of the best controls available, for your accountant to use in his periodic audits.

The next office form I would like to suggest will offer even further protection to you against the possibility of misapplication of funds. I refer to an individualized receipt book (with your name and address imprinted) which provides carbon copies of those receipts that have been given, and are bound in a book.

The business-like procedure of furnishing a receipt whenever cash or currency is received is something to


DOCTORS
PARKING
ONLY
7AM - 7PM
QUIET



ACHROMYCIN® V

Tetracycline and Citric Acid Lederle

A Decision of Physicians

When it comes to prescribing broad-spectrum antibiotics, physicians today most frequently specify ACHROMYCIN V.

The reason for this decided preference is simple.

For more than four years now, you and your colleagues have had many opportunities to observe and confirm the clinical efficacy of ACHROMYCIN tetracycline and, more recently, ACHROMYCIN V tetracycline and citric acid.

In patient after patient, in diseases caused by many invading organisms, ACHROMYCIN achieves prompt control of the infection—and with few significant side effects.

The next time your diagnosis calls for rapid antibiotic action, rely on ACHROMYCIN V—the choice of physicians in every field and specialty.

Lederle

LEDERLE LABORATORIES
a Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

which the public is accustomed. A certain number of patients have had experience, or heard about situations where money at a doctor's office was accepted, and then in the office hullabaloo forgotten (possibly on purpose) to be posted. Such individuals are especially desirous of having some tangible proof of payment. This is perhaps the greatest reason why so many people will not pay their doctor in any way but by check . . . thereby explaining why cash payments at the desk are ordinarily very nominal. As an employer it is very important to you to have the currency "proven" at the end of each day with the total receipts that have been written. Charge slips kept in numerical sequence and a receipt book (in which ALL cash received *has* to be recorded) will, together, nip any potential employee dishonesty in the bud.

Another form that will do its share in promoting office efficiency is a telephone message book. By keeping a carbon copy bound in the book, the secretary can prove at any later date to her employer, or to a patient, that the information was taken and delivered. Many offices jot down on the back of the slip that is given to them how the requested call was handled, and put it in the patient's chart for future reference. One of my orderly clients has a girl scotch-tape these messages on to 8¼ by 11 blank sheets, which are then put in the charts.

Sixth, and finally, let us devote our attention to ways whereby we can be freed of most, if not all, of our non-professional details.

Those of you inching your way into an uncomfortable high tax bracket; and those of you who put a premium on having a smooth running, efficient office, should seriously consider paying $10, $15, or even $25 more per week than is the going wage for medical secretaries in your locality . . . and get one that is a cracker-jack. By offering a higher salary you can insist on getting a girl who is not only a first rate steno-typist, *but an office manager as well.* If you are in a high tax bracket the Government will be paying at least half of her salary. If you aren't as yet in such a bracket, she will do her share to assist you getting into such a deplorable situation!

Even if she has never worked for a doctor previously, a woman who has been the private secretary of a top flight executive can quickly learn your routines and procedures. Such an individual will have the ability to handle many details that you ordinarily would not entrust to an average secretary. As for paying your bills, she will do everything but sign your name for you. She will organize your office to a degree that you never thought possible. Within a short time she can be entrusted to handle your disputed accounts. In time, you will find that she can do a better job in setting your fees than you can, in all likelihood. She will be able to convey, without saying it in so many words, the quality of your work and your ability. You will find your surgical fees uniformly higher. Wherever the circumstances warrant it, she can adjust the regular fee to the circumstances of the individual. At the same time interview arrangements will be worked out for paying the bill. In this area alone an astute, intelligent office manager — who is also your secretary and assistant — will earn many times the cost of her salary — even if you have to pay more to get her.

Attempting to draw this presentation to as sharp a focus as possible, I would like to sum up my remarks by saying that you can maintain, and even implement your practice momentum without intensifying or increasing the physical effort you are now expending on medicine. In order to do this, you will need to do some PRACTICE PLANNING. You will need first of all to set your sights on the income level you wish to attain for the immediate future, as well as for five years hence. If this is beyond your present capabilities, you will have to find ways of either, (a) lowering your income requirements, or (b) increasing your earnings. The latter can be done by re-evaluating your fee structure, expanding your production by forming a partnership, or by increasing your ancillary sources of income. You should give some serious attention to finding ways to reduce the normal noise and confusion found in a medical office. Finally, you should try to find a way to be relieved of as many office details as possible. By moving in such a direction you SHOULD be able to find greater enjoyment in the practice of medicine.

It is a very natural condition for the busy rational human being to become so involved in meeting his responsibilities that he "is unable to see the forest for the trees." Doctors, in general, also fall into this trap. Not only does such a situation put too heavy a burden on one to the detriment of his well being, but it can cause him to lose the inspiration and the challenge that is ever present in medicine . . . and is so sadly lacking in many of the other livelihoods.

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D. Togus
Second District, WALDO A. CLAPP, M.D. Lewiston
Third District, RALPH P. EARLE, M.D. Vinalhaven
Fourth District, JAMES E. POULIN, M.D. Waterville
Fifth District, MARCUS A. TORREY, M.D. Ellsworth
Sixth District, RICHARD C. WADSWORTH, M.D. Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville
PEARL R. FISHER, R.N., Waterville

Across The Desk

$8 Million Deficit for Medicare Held Illegal

House Appropriations Committee has denied an Eisenhower-endorsed request by the Navy for $8 million to pay Medicare bills. In a stinging rebuke, the committee went further and charged that behind the request there probably lies a violation of the Federal law which prohibits officials from obligating unappropriated funds. Navy had asked for the money to pay for private medical and hospital services to dependents during the past fiscal year.

The committee's blistering report hinted that the Navy ran short and had to come up with this $8 million deficiency request because it did not heed the warning of a year ago to promote greater utilization of military treatment facilities and spend less money on Medicare services.

Osteopaths Eliminate Founder's Name from Constitution

The American Osteopathic Association agreed by a 105 to 16 vote at its annual meeting in Washington to drop from its constitution the name of its founder, Dr. Andrew Taylor Still. In his presidential address, George W. Northup, D.O., said the AOA desires to cooperate with all other agencies responsible for health services but that the solutions of AOA problems "will not be solved by placing our future in the protective custody of any other organized body." In any event, he said, medicine in general and osteopathic medicine in particular can no longer exist as "an isolated island in society."

Big Fund Raises Granted for Health and Research

Both House and Senate passed a bill granting record appropriations for U. S. Public Health Service and its medical research functions. For the latter, $294,383,000 was given to National Institutes of Health, most of which will be channeled into research grants to private and public institutions. This is exclusive of $30 million in matching funds to help professional schools, hospitals, etc., finance construction of research facilities. The sum is *$75 million more than House had recommended.* In joint conference, however, Senate yielded to House demand that the government pay no more than 15 per cent of the grant to defray research overhead costs. Other high points:

- For Hill-Burton hospital construction, *full $150* million allowed — the top limit permissible — for acute beds. For Part G of Hill-Burton Act, an additional $35 million was appropriated: $10 million each for nursing homes and rehabilitation facilities and $7.5 million each for diagnostic centers and chronic beds.
- To build and equip a new home for National Library of Medicine, $7 million is allowed. This climaxes a crusade going back many years.

•Compromise settlements were made in appropriations for control of venereal diseases, tuberculosis and communicable diseases. New endorsement was given NIH program for testing and screening of drugs by pharmaceutical houses on contractual basis. A special allocation of $4 million was made to Psychopharmacology Service Center.

In Advertising, "House Group Pleads for Truthpaste"

A group of Congressmen, who have been scrutinizing advertising of cigarettes, weight reducers and tranquilizing drugs since last January, turned their attention to toothpaste. The American Dental Association presented several hours of expert testimony purporting to show the dangers and wide extent of misleading advertising for dentifrices. The next day the legal and monetary affairs subcommittee of House Government Operations Committee heard from the Federal Trade Commission officials on what they can — and cannot do — to curb extravagant claims for toothpaste and drugs.

Summary of AMA Actions on Legislative Issues

The House of Delegates acted on a number of Washington-angled questions but there were no departures from traditional policy. Attempts to gain approval of a national membership referendum on social security coverage were beaten down. Resistance to Federal medical benefits for veterans with non-service-connected disabilities was strengthened. Resolutions were adopted on United Mine Workers medical program policies and *projecting AMA into the controversy over united giving and separate fund campaigns.*

For president-elect, the delegates chose Dr. Louis M. Orr, Orlando, Florida, who for the past few years has headed a drive to curtail veterans' benefits in non-service-connected cases. Highlights of San Francisco meeting follow:

Social Security

The Connecticut and New York resolutions authorizing a national poll of AMA members to learn whether they wish to come under social security were rejected. Such a survey would be "informational only" and would "usurp the duties and prerogatives of the House of Delegates," it was held. The House reaffirmed opposition to inclusion of physicians for coverage. Also it called for a Congressional investigation of the social security system.

Nebraska and Texas resolutions condemning broadened social security benefits along Forand bill lines were passed.

Care of Veterans

Unanimous approval was given a resolution which (1) calls for Congress to deny VA hospitalization to all non-service-connected cases, and (2) counsels deans' committees to "restrict their activities to Veterans Administration hospitals admitting only patients with service-connected disabilities."

Medicare Program

The policy-making body declined to support a Texas resolution urging repeal of Medicare law. Instead, it reaffirmed last year's action advocating individual state determination of courses to follow on fee schedules. By the same token, the House of Delegates disapproved an Arkansas resolution demanding that 7 p.m. be fixed as the hour when physicians may start charging night rates for services to Medicare patients. "The matter should be left to the decision of the individual states in negotiating their Medicare contracts," the final ruling held.

Trustees Overruled in Battle with UMWA Fund

The Board of Trustees called for deferment of action until next December on holdover resolutions supporting a "public education" drive in AMA's quarrel with UMWA over free choice of physician in care of miners and families. But a floor amendment by Dr. Kenneth C. Sawyer, Denver, directing headquarters staff in Chicago to proceed immediately with the campaign was carried by a vote of 110 to 72.

Dr. Sawyer deprecated "the rotten campaign of publicity being waged against you nationally by the UMW fund." Note: There is reason to believe that sharp criticism raised against AMA at the recent labor health meeting in Washington was aimed at drawing retaliatory fire — now accomplished — in order to bring the fight into the open.

Voluntary Associations

Three separate resolutions were introduced for the common purpose of giving AMA backing to present fund-raising policies of voluntary agencies in the health field, which are under continuing pressure to join united giver funds. However, a reference committee suggested withholding such support and, instead, resorting to the conference table. This was decisively rejected on the floor, with AMA going on record in favor of independent campaigns to raise funds.

AMA's Capital Office

Dr. Gundersen, newly installed president, told the delegates a reorganization of AMA's Washington office is probable. President-elect Orr said better coordination is needed between headquarters in Chicago and its Potomac listening post. And the delegates themselves adopted a California resolution which asks Dr. F. J. L. Blasingame, general manager, "immediately to survey and re-evaluate the functions and effectiveness of the overall AMA legislative system, including the Washington office."

Osteopathy Fight Averted

What might have been a repetition of the bitter floor battle three years ago over relations with osteopathic medicine was averted by withdrawal of a resolution introduced by Dr. Joseph C. Peden, of the Missouri delegation. He proposed re-examination of the Cline committee report of 1955, rejected by the House of Delegates in Atlantic City after lengthy debate, adoption of which would have permitted M.D.'s to teach in colleges of osteopathy and led to other hatchet-burying innovations.

Dr. Peden consented to withdraw his resolution reportedly with the understanding the subject will be taken up at AMA's next meeting.

Other Actions in Brief

Strengthening of medical department of Civil Aeronautics Administration was urged and efforts of trustees in that direction were endorsed. Federal Food and Drug Administration was commended for its law enforcement work. A resolution directs the board of trustees to dicker with the Defense Department for "a more equitable callup of physicians in time of a national emergency."

From The Secretary's Notebook

ROCKLAND IN 1958

As space does not permit complete coverage of activities at the 105th annual session of the Maine Medical Association this brief resume will deal only with a portion of the proceedings of the House of Delegates, the General Assembly, and meetings of the Council.

House of Delegates

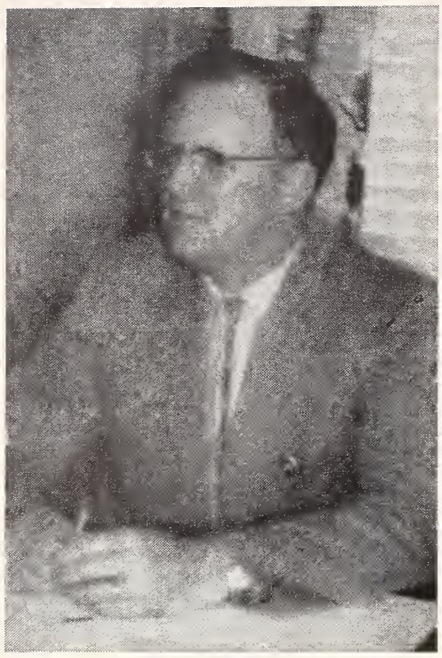
Meetings of the House of Delegates were held on Sunday, June 22; the first meeting at 10:00 a.m. and the second meeting at 2:00 p.m. Complete stenographic records of the proceedings are on file in the headquarters office of the Association and are available to any member who wishes to stop in and look them over.

At the first meeting, reports were presented by the Council Chairman, Executive Director, Secretary-Treasurer, and by Chairmen of Standing and Special Committees. (Committee reports will be found in the June, July and August issues of the Journal.)

There were two major items on the Agenda for this meeting; the Budget for 1958-1959 and proposed changes in the M.M.A. Constitution and By-Laws. It was voted that these matters be referred to Reference Committees for further discussion. Consequently, the Chairman, Eugene E. O'Donnell, M.D., appointed the following committees: Budget — Arthur N. Lieberman, M.D., Chairman, Perley J. Mundie, M.D., and Brinton T. Darlington, M.D.; Constitution and By-Laws — Ralph A. Goodwin, Sr., M.D., Chairman, John F. Andrews, M.D., and Charles R. Glassmire, M.D. (Both of these matters were presented at the interim meeting following which copy was sent to each county secretary and to each delegate and alternate. The proposed changes in the Constitution and By-Laws were also referred to a special committee with Eugene H. Drake, M.D., as Chairman.)

At the second meeting of the House of Delegates the Budget for 1958-1959, which follows, was approved.

Association:	
Office	
Salaries:	
Executive Director	$10,000.00
Secretary-Treasurer	3,000.00
Stenographers (2)	6,000.00
Travel — Exec. Dir. & Sec.-Treas.	2,000.00
Supplies, telephone, rent, etc.	3,800.00
Equipment	600.00
General:	
President's Expenses	1,000.00
Annual Session	3,500.00
Council	650.00
Committees:	
Medical Advisory (Legal Counsel)	1,000.00
Legislative Counsel	1,500.00
National Education & Public Relations	1,500.00
Other Committees Standing & Special	1,000.00
Delegates:	
American Medical Ass'n.	800.00
New England States	300.00
New England Council Dues	100.00
Fall Clinical Session	400.00
Annual Roster	250.00
Woman's Auxiliary	325.00
Journal:	
Printing & Plates	22,000.00
Travel	400.00



ROBERT G. MACBRIDE, M.D., Lubec



RALPH C. STUART, M.D., Guilford

Office:	
Salaries	
Secretary-Treasurer	1,500.00
Stenographer	2,500.00
Supplies, postage, rent, etc.	1,400.00
Prizes	300.00
Insurance	100.00
Totals	$65,925.00

Estimated Income

State dues:	
Association	$37,524.00
Journal	1,416.00
Journal Subscriptions & Miscellaneous Accounts	225.00
Journal Advertising	24,000.00
Exhibit Space Rentals	3,500.00
Miscellaneous:	
A.M.A. Coll. of Dues	40.00
Totals	$66,705.00

(Income from Investments, approximately $800.00, is not included above inasmuch as this is used for loans to medical students. See Auditor's Report for 1957-1958 in June Journal, page 239.)

The Constitution and By-Laws was also approved and a copy will be sent to each member as soon as the printed copies are available.

Two resolutions were presented at the first meeting and these, too, were referred to a Reference Committee which consisted of the following members: Nelson P. Blackburn, M.D., Chairman, James N. Shippee, M.D., and Daniel P. Storer, M.D., The first resolution, which was approved in principle, concerns Hospital-Radiologists Relationships as adopted by the Maine Radiological Society. The second resolution relative to the purchase of liability insurance by all hospitals within the State having M.M.A. members on their staffs, presented by the Penobscot County Medical Association, was approved.

Councilors elected at the second meeting of the House are as follows: Fifth District (Hancock and Washington Counties), Robert G. MacBride, M.D. of Lubec; Sixth District (Aroostook, Penobscot and Piscataquis Counties), Ralph C. Stuart, M.D., Guilford.

The report of the Nominating Committee, which was approved at this same meeting, will be found in the July issue of the Journal, page 283. This includes members of the Standing Committees and a Delegate and Alternate to the American Medical Association.

General Assembly

Allan Woodcock, M.D., of Bangor, was elected President-elect at the General Assembly on Monday, June 23.

Francis A. Winchenbach, M.D., of Bath, Association President, presided at this meeting and introduced the following Out-of-State Delegates: Sydney Luria, M.D., Fairfield, Connecticut; Edwin T. Wyman, M.D., Brookline, Massachusetts and Charles H. Goyette, M.D., Barre, Vermont.

Doctor Winchenbach then announced that the following physicians would be presented with awards for outstanding contributions to the Journal in 1957-1958: Warren C. Baldwin, M.D., Robert L. Ohler, M.D., James M. Parker, M.D., and Jacob B. Dana, M.D.

Following a brief but apropos "Presidential Address' by Dr. Winchenbach, the Assembly was adjourned at five o'clock in the afternoon.

Continued on page 318

State of Maine

Department of Health and Welfare

DEAN H. FISHER, M.D.
COMMISSIONER

Tuberculin Testing In Aroostook County — 1958

MARGUERITE C. DUNHAM, M.D.

In 1957 a program of tuberculin testing of first graders in Aroostook County was carried out. The results of this study (J.M.M.A. October '57) indicated that:

1. The Aroostook tuberculin reactor rate was not significantly different from that of Southern Maine.
2. The rate in Maine was not significantly higher than that of the nation as a whole.

These results were somewhat in contradiction to the widely held opinion that Aroostook County is "riddled with T.B." This study was recognized to be limited of interpretation due to the small size of sample. It was planned to expand the study and this has been accomplished. The results of the additional tuberculin testing are presented below. The planning, preparation, and work of this recent study was carried on in large part by the Aroostook Tuberculosis and Health Association, with records being analyzed by the District Health Office. Much credit is due the Association in this activity.

Again first graders (or sub-primary groups) were surveyed since it is felt that this group will best reflect the rate of infectio nin the home, where most of the young child's opportunity for exposure to tuberculosis occurs.

The intradermal method of testing was used with 0.1 cc dose of intermediate strength P .P. D. solution (5 tuberculin units or 0.0001mg of P. P. D.) as is recommended for testing of large groups. The test was read in 48 hours and interpreted according to the guide (Table 1) recently developed as a result of investigations indicating that the extent of reaction is proportional to the degree of infection.

These procedures were followed in the Aroostook testing and the results are presented in Table 2.

The expected rate on a national basis for first graders is 1-3% reactors. It is evident from Table 2 that the rates in Aroostook County fall within this normal range with only one area — Van Buren — Grand Isle — exceeding slightly the expected normal reaction rate, this difference being hardly significant.

TABLE 1.

GUIDE FOR INTERPRETATION OF TUBERCULIN SKIN REACTION

Area of Induration (mm). (Redness to be disregarded)	Interpretation of Reaction
0	Negative
0-5	Doubtful — maybe tuberculosis, maybe not tuberculosis.
5-10	Positive — due to infection not of clinical significance.
10 and over	Positive — with clinically significant disease.

TABLE 2.

RESULTS OF TUBERCULIN SURVEY OF FIRST GRADERS IN AROOSTOOK COUNTY — 1958

TOWNS	*Houlton*	*Madawaska*	*Grand Isle-Van Buren*	*Frenchville St. Agatha*
Total in First Grade	202	142	146	89
Total Tested	170	130	130	71
Per cent Tested	84	92	90	80
Number Positive	1	0	4	2
Per cent Positive	0.6	0	3.1	2.3

This again supports the conclusion drawn from last year's study that tuberculosis in Aroostook County is not excessively high.

Further support is given this finding by the tuberculin testing of the High School students in Caribou. This was, strictly speaking, not part of the above study which dealt with first graders only, but it is of interest. The results are noted in Table 3.

The expected reactor rate in this age group is 8-9% so that Caribou with a rate of 8.8% is not unusual in

TABLE 3.

Results of Tuberculin Survey in Caribou High School — 1958	
	Caribou High School
Total in Group	121
Total Tested	102
Per cent Tested	84
Number Positive	9
Per cent Positive	8.8

TABLE 4.

Expected Tuberculin Reactor Rates According to Age	
Age (Years)	*% Expected Reactors*
4-6	1-2 %
12-14	3-5 %
16-18	8-9 %
20-25	12-15%

its tuberculin reactor rate. Credit for much of the planning, preparation, and follow-up in this project goes to the Caribou School-Community Nurse.

It would seem that the tuberculin test is of value as an index of tuberculosis in the community. It is not subject to the undesirable features of change in diagnostic and reporting practices found in other indices such as the newly reported case rate and is thus a somewhat more objective test. More work needs to be done, however, on a nationwide basis to make this the valuable tool it should be in community tuberculosis work.

It is necessary in particular to have more data as to the expected normal community reactor rates for different age groups. Present work indicates that the rates to be expected are as shown in Table 4.

These are estimates only, however, and need to be substantiated further by more community surveys.

In Aroostook at least two communities are planning on-going programs of community surveying, with expectations of tuberculin testing each year children in the first, eight, and twelfth grades. This program will serve three purposes —

1. It will help find individual cases of tuberculosis.
2. It will give the community an over-all picture of its tuberculosis situation and of how it is changing in time.
3. It will help provide data for determining more definitely the validity of the expected reactor rates.

The tuberculin test is extremely useful also as a differential diagnostic test and is to be recommended for use by the private physician. There is, however, one important disadvantage to its wide-spread use in this way. That drawback is the instability of the P. P. D. solution coupled with the small individual doses required. New solution must be prepared each one or two days as the product deteriorates rapidly and it is impractical to mix at one time less than five doses. Thus, for testing one or two persons, as much as three or four doses may be wasted since it is not usual in the average physician's office to have five persons requiring tuberculin testing within a two-day period.

This difficulty is being overcome in some areas by tuberculin clinics. These clinics are staffed by a qualified person and held for a few specified hours a week. Any physician in the district can send patients for tuberculin testing and reading. In this way several persons can have tests at one time and thus reduce waste.

Such clinics and community surveys are to be encouraged as they will aid in establishing the tuberculin test as an instrument of real value in individual and community tuberculosis control.

FROM THE SECRETARY'S NOTEBOOK — *Continued from page 316*

Council

The Council of the Maine Medical Association met on the day preceding the annual session and daily throughout the meeting in accordance with the By-Laws.

The organization meeting was held on Sunday, June 22, following the Second Meeting of the House of Delegates. At this meeting, Wilson H. McWethy, M.D., of Augusta, was elected Council Chairman for 1958-1959. Daniel F. Hanley, M.D. of Brunswick, was re-elected Executive Director and Editor, and Mrs. Esther M. Kennard, Secretary-Treasurer and Business Manager.

At the meeting on Monday, June 23, the 1959 annual session was discussed and it was voted to hold this meeting at The Samoset on June 21, 22, and 23, 1959.

The Fall Clinical Session was also discussed and Drs. O'Donnell and Woodcock appointed to study this matter and report at the next meeting of the Council.

On Tuesday, June 24, the Council voted to hold the Fall Clinical Session in Portland in December, 1958, the dates to be decided by a "local" committee. Drs. O'Donnell and Hanley were instructed to work with this committee in arranging a program for this session.

Maine Medical Association

ANNUAL REPORTS — 1957-1958*

Council

First District — CARL E. RICHARDS, M.D.

Both York and Cumberland had the usual number of meetings and I attended the majority of the meetings of both county societies. The interest is high and the condition of both societies is good.

Second District — JAMES A. MACDOUGALL, M.D.

In compliance with the requirements of the constitution of the Maine Medical Association, I hereby submit my report of the Second District.

The Androscoggin County Society meeting, which I attended last October, was featured by a large and enthusiastic roll call. Apart from attention to regular county business some time was given to organization to combat the impending "Flu" epidemic.

Unfortunately, Oxford and Franklin counties held their meetings on the same date, which made it impossible for me to attend both, and I can report on Franklin county only as has been transmitted to me verbally, which was favorable.

Oxford county, together with attention to routine county affairs, stressed a very earnest interest in promoting social security for doctors.

Third District — ROBERT L. ALLEN, M.D.

During the year 1957-1958, several items of interest have taken place in District 3 of the Maine Medical Association.

Dr. Neil A. Fogg, for many years a leading surgeon in the coastal areas, but in retirement for the past several years, passed away on April 27, 1958.

Dr. George Dash, an honorary member of the Maine Medical Association practicing in Boothbay Harbor, died on February 17, 1958.

Dr. Mustafa Onat has opened offices in Port Clyde, and is an anesthetist on the staff of the Knox County General Hospital.

Dr. Richard Clark has opened offices for general practice in Bath.

Dr. Miriam Doble has returned to practice as an anesthesiologist on the staff of the Bath Hospital.

Dr. Verla Worthing of Thomaston has passed examinations, and is now a Diplomate of the American Board of Anesthesiology.

The Knox County General Hospital is in the process of a $900,000 building program with an expected increase in bed capacity to 85.

Plans will be made this summer for a similar expansion at the Miles Memorial Hospital, Damariscotta.

A fund-raising campaign is due to start in Camden this summer toward the building of a new 26-bed hospital.

During the year both the Lincoln-Sagadahoc and Knox County Societies have continued affiliation with the Bingham Foundation. The excellent speakers procured have contributed much to their post-graduate educational program.

Fifth District — RAYMOND E. WEYMOUTH, M.D.

In accordance with the by-laws, I am hereby submitting a brief annual report of conditions in this district, Hancock and Washington Counties, of which I am serving my third year as Councilor.

Both societies continued to hold meetings at the regular stated intervals, generally have good attendance and good programs. The Hancock Society has gained two or three new members this year, but by changing of residence, desires and aims, we stand to lose that many in the near future. However, the outlook for increasing membership is good.

The Washington County membership, according to the records, remains about the same.

Sixth District — ALLAN WOODCOCK, M.D.

As Councilor of the Sixth District, in accordance with the By-Laws that each member of the Council shall make an annual report of conditions "in his District at the annual meeting of the House of Delegates," I submit the following:

I attended a meeting of the Piscataquis County Medical Society on November 21, 1957, at the Blethen House in Dover-Foxcroft, and also a meeting of the Piscataquis County Medical Society on May 22, 1958, at Dr. George Howard's camp at Whetstone Pond. As usual, these meetings were fully attended. The discussions of medical problems and problems of the Maine Medical Association were lively, to the point, and frank. This Society is healthy and strong.

On February 19, 1958, I attended the meeting of the Aroostook County Medical Society in Presque Isle. This was an afternoon-evening affair which was very well attended. Excellent papers were given in the afternoon by Dr. McCoombs and Dr. Rheinlander of the New England Medical Center. In the evening, there was a panel discussion on the subject of chest tumors, led by Dr. Rheinlander and Dr. McCoombs. At the meeting following the scientific program, several matters of interest of the Aroostook County Medical Society and the Maine Medical Association were discussed. This Society is a strong one and in good shape.

The Penobscot County Medical Society had its regular monthly meetings from October through May. The meetings were well attended. The Society was host to a five-county meeting, which included a morning and afternoon scientific session and a banquet in the evening, at which there were about 200. It was entirely successful, and I believe is an excellent way to promote friendship among the doctors. The affairs of the Society are sound.

*Presented at the 105th Annual Session of The Maine Medical Association, June, 1958.

Report of Delegate to A.M.A. House of Delegates

Annual Session—1958

Let me again say to you, your A. M. A. is doing a tremendous job on many fronts. It is a good job and well worth your contribution to it. Under the able leadership of our President, Dr. David Allman, your Association has accomplished a great deal this past year. You will have an opportunity to learn more of its many activities from "The A. M. A. News" soon to be sent to each of you. The A. M. A. is being streamlined both in office building and internal organization so its publications as well as policies should have a "Forward Look." A young energetic, Dr. Gunnar Gunderson of Wisconsin will have the helm during the coming year.

Again I wish to present the central concept of the A. M. A. as expressed by Dr. Allman in San Francisco. "The A. M. A. does have a positive attitude, supporting ten of eleven bills in Congress on which it was asked to testify." In explaining our apparent negative attitude, he states, "what is there positive in: (1) Proposals which with utter disregard of economic facts promise nebulous mass benefits at the cost of individual dignity and freedom. (2) Programs involving more and more taxation to pay for benefits impartially available to all persons in complete disregard of their needs of such benefits, or of their ability to provide them for themselves or (3) The exaltation and expression of the powers and rights of government when it usurps, restricts, and even denies the freedoms of individual citizens. These programs are really negative and not in the best interests of a free society. The A. M. A. believes that the *utilization of voluntary means* is the best way for the individual citizen to meet the needs and provide the benefits he chooses to enjoy. Our nation cannot proceed upon the appealing but false and misleading assumption that democracy is a system under which everyone is entitled to everything he wants regardless of his willingness to labor and to save for it." He continues to define and explain A. M. A. philosophy of our democracy. "The original idea of democracy viewed it as a system, and postulated it as fundamental, that the equality of *opportunity* was the right of every citizen, but it did not even embody the intimation that everyone should be entitled to the "Victors Palm" even if he refused to run the race." The recently prevalent misconception of a Democracy or Welfare State, discourages initiative by imposing heavy and disproportionate burdens upon productive and responsible citizens by granting undeserved profits to the unproductive and irresponsible. Such a system is unsound, will dissipate our strength, diminish our resources and destroy us as a nation leaving us bankrupt and debauched.

He concludes his address to the House of Delegates by saying, "Every physician should rededicate himself to the service of mankind and every medical society should strengthen its disciplinary system to prevent the very few from besmirching the vast majority. We must be high minded, uncorruptible men, above reproach and so by living and laboring in this pattern we can win a sufficient number of our fellow citizens to live and labor in a like fashion."

To belabor the ideas and concepts of A. M. A. seems to me to be necessary so that each of us can then understand the reasoning behind the A. M. A. stand on Social Security, the Forand Bill, or any other legislation or issue that is likely to occur in the future. Such a stand is rational, sound, and consistent although certainly not popular in many circles. However, I feel that it is respected by many who would not be able or wish to state so publicly for fear of cutting their own throats politically.

The A. M. A. is attempting to re-evaluate itself and get the opinions of the rank and file of physicians on what should be the basic concepts, objectives and basic programs of A. M. A. Questionnaires have been sent to all state officers and one out of every 16 physicians. If anyone should like a questionnaire or express any constructive criticism, he may write to Dr. L. A. Alesen, Chairman of Committee on A. M. A. Objectives and Basic Programs, c/o A. M. A., Chicago, Illinois.

A summary of actions by House of Delegates meeting follows:

SERVICE MEMBERSHIP Decided to study further problem of *"Service Membership" and V. A. doctors.*

INCOME Noted an increase to $5.3 million from 138,000 members and $5.8 million from advertising and total income of $11.7 million with expenses of $10.4 million.

FLU IMMUNIZATION IN FUTURE Went ahead with plans to set up stand-by program for mass immunization to prevent '57 Asian Flu fiasco.

REHABILITATION Worked toward State and National coordination of Rehabilitation Program.

INTERN AND RESIDENCY TRAINING Approved revision of "Essentials for Internship and Residency Programs" as outlined, by Council on Medical Education and Hospitals.

RADIATION HAZARD Established a committee on "Atomic Medicine and Ionizing Radiation to report to Medical profession and public on all phases of radiation hazards and fall out."

HYPNOSIS Approved the use of hypnosis for medical purposes with reservations.

RADIO T.V. ADVERTISING Approved continuation of work to limit radio and T.V. advertising of "over-the-counter" medication and proprietary remedies for self-medication.

VOLUNTARY HEALTH AGENCIES To continue to encourage Voluntary Health Agencies to conduct Research and Fund Raising as they desire with no interference from United Funds or A. M. A., and not allow American Medical Research Foundation to receive proceeds from United Funds.

MEDICAL CARE PLANS—STATISTICAL REPORT Noted the publication of Commission on Medical Care Plans of 180-page volume of "Part II Statistical Appendices and Background Materials." This is almost an encyclopedia on 107 different Health Insurance Plans: Voluntary, nonvoluntary and miscellaneous, their origin, benefits, objectives and structure. It contains also judicial opinions and role of House of Delegates in their policy formulation. It represents more than 5 years' work by teams of A. M. A. employees and hundreds of hours by the 15 doctors on the commission and several times that number who worked with them in its preparation.

FREE CHOICE AND UNITED MINE WORKERS Set in immediate motion a Public Relation Program to offset unfavorable publicity given Medical profession in its relations with United Mine Workers Welfare and Retirement Fund.

Continued on Page 323



when psychic symptoms distort the picture

Dartal helps the patient reintegrate his mental processes

In everyday office practice as well as under hospital conditions Dartal is consistent in its effects as few tranquilizers are.

Dartal promotes emotional balance

Dartal effectively decreases or relieves emotional hyperactivity and psychomotor excitement.

Dartal is unusually safe

At a recent symposium, leading hepatologists* concluded that Dartal is not icterogenic or hepatotoxic.

Dartal is effective at low dosage

One 2-mg. tablet q.i.d. or one 5-mg. tablet t.i.d. in neuroses; one 10-mg. tablet t.i.d. in psychoses.

a superior psychochemical
for the management of both major and minor emotional disturbances

Dartal®

dihydrochloride — brand of thiopropazate dihydrochloride

SEARLE

*A Symposium on the Pharmacologic Effects of Dartal on the Liver, Chicago, Searle Research Laboratories, Feb. 7, 1958.



ANSWERING QUESTIONS

Blue Shield—Servant Of Medicine

The woods are full of people who would like to make over (or maybe, take over) the practice of medicine. Here and there, captains of industry or of labor are buying and building hospitals, setting up "closed panels" of doctors working on salary, and offering their group services through various local prepayment schemes. Trade unions in some of our large cities are organizing health and medical centers, to provide an ever widening scope of prepaid medical services through physicians employed on a salary basis.

All these plans represent, in a greater or lesser degree, a departure from medicine's traditional principles of free choice of physician for the patient and fee-for-service payment for the physician.

Blue Shield, on the other hand, does not attempt, even inadvertently, to change the patterns of American medicine. Blue Shield leaves the patient completely free to choose his own physician. It pays his doctor on a fee for service basis. It is adaptable both to the traditional mode of solo practice and to the new modes of group practice. It doesn't try to put medicine into a new mold — but it serves medicine under whatever pattern the doctor chooses to evolve.

Perhaps most important of all, Blue Shield — alone among all types of prepayment plans — bases its experience on the needs of the entire community. Thus it seeks to help our profession meet its overall responsibility to all the people — not just to those groups that are most powerfully organized or most favored as insurance "risks."

Blue Shield is the servant — not the master — of medicine.

REPORT OF DELEGATE TO A.M.A. — *Continued from page 320*

PUBLIC ASSISTANCE FUNDS Approved each State's right to decide what portion of public assistance funds be paid directly to providers of medical services and what portion to recipients themselves.

COMMITTEE ON AGING Accepted a Set of Guides for Medical Societies' "Committees on Aging."

HILL-BURTON

a. To allow each state to set up own priorities for use of funds according to its needs.

b. Eliminate "diagnostic or treatment centers" in spite of our own pleas to the contrary.

c. Include a program for long term basis for construction or renovation of hospitals and nursing homes.

MEDICAL CARE OF INDIGENTS Requested of National Government that any funds provided under the Public Assistance provision of the Social Security Act for medical care of the indigent be administered by a Voluntary Agency such as Blue Shield-Blue Cross on a cost plus basis or by a specific agency established by the Medical Society.

HOSPITAL PRACTICE OF MEDICINE Recommended further study of the "Hospital Practice of Medicine" which is manifest by the encouragement of staff members to have offices in or adjacent to the hospital. It was referred to the Board of Trustees for action.

SOCIAL SECURITY Adopted the Resolution of Reference committee re: Referendum which stated "there is no provision in the A. M. A. constitution and bylaws for a Referendum of Members, such a referendum would usurp the duties and prerogatives of the House of Delegates." It further stated "The matter has been discussed several times before the A. M. A. House of Delegates and its reference committee, yet there remains the necessity of reiterating our position to members of Congress and the general public that American physicians strongly oppose being included in the Social Security System, since American Physicians always have stood on the principle of security through personal initiative, therefore the House of Delegates unequivocally oppose the compulsory inclusion of self-employed physicians in the Social Security System."

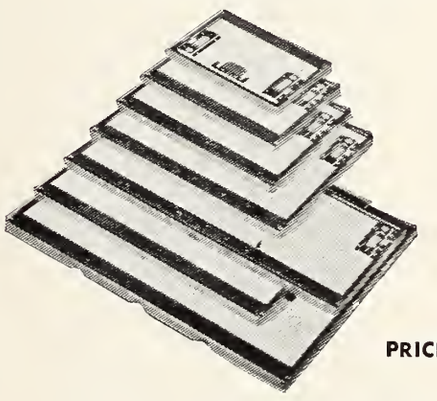
HEALTH CARE OF THE AGED Urged to Board of Trustees and "Joint Council to Improve the Health Care of the Aged" to work out a solution to this problem.

MEDICARE Recommended that the decision as to the type of contract and whether or not a fee schedule is included in future contract negotiation should be left to individual state determination.

INDIGENT CARE Approved a resolution relating to formation of a Committee to study, anticipate, educate and in the best interest of the people prepare for future legislation on this subject.

SERVICE CONNECTED DISABILITIES IN V.A. HOSPITALS Since 75% of 620 million dollars of hospitalized medical care of veterans is for non-service connected disabilities, the House of Delegates urged Congress to restrict hospitalization of Veterans to service connected disabilities and suggested to the Dean's committee that

G-E molded cassettes cost less— last far longer!



Molded-rubber frame cushions jolts, keeps front and back of cassette in *true alignment*. Built-in glass-fiber pad gently squeezes screens and film for uniform contact always. "Slide-easy" latches release at light finger pressure, resist accidental opening. Molded-rubber seal prevents entry of light. Exclusive rubber hinge — thoroughly proved in ½-million flexings that left it *bonded as firmly as at time of manufacture!*

PRICES: 5x7—$14.00 6½x 8½—$16.50 8x10—$18.00 11x14—$23.25 7x17—$23.50 10x12—$20.00 14x17—$25.25

Your one-stop direct source for the

FINEST IN X-RAY apparatus . . . service . . . supplies

DIRECT FACTORY BRANCH
BOSTON
1256 Soldier Field Rd. • STadium 2-1100

RESIDENT REPRESENTATIVE
SOUTH PORTLAND
R. J. MARTIN
19 Chase St. • SPruce 9-0536

they restrict physicians to those V.A. Hospitals only which admit patients with service connected disabilities.

DOCTORS DRAFT Instructed Board of Trustees to effect a liaison with Department of Defense for the purpose of effecting a more equitable call up of physicians in time of a national emergency.

NURSE TRAINING PROGRAM Approved the following Resolution: "It is believed that the medical profession at county, state and national levels could be of great assistance to the nursing profession in planning programs of training which would be consistent with nurses' needs and dignity, while at the same time assuring physicians and the public of experienced and well-balanced nursing care." Also that the A. M. A. initiate continuing discussions with representatives of the American Nurses' Association, National League of Nursing, and A. H. A. to improve the quality and quantity of nurse training and the results of such discussions be disseminated to the medical profession through available media. Recently the National League for Nursing approved additional representation from the A. M. A. on its Accreditation committee.

MEDICAL JOURNAL ADVERTISING That appropriate councils of the A. M. A. assist State and County societies in evaluation and approving advertising printed in their Journals.

COMMITTEE TO STUDY A. M. A. OBJECTIVES AND BASIC PROGRAMS Urged all members of the profession to cooperate by answering any questionnaire sent to them, writing the committee their ideas or suggestions as to how the A. M. A. might be improved. Any further details about any of the above points anyone should like to have, please write or call me.

PHILIP P. THOMPSON, JR., M.D.

Committee on Civil Defense

The Committee on Civil Defense of the Maine Medical Association will have met three times during the 1957-1958 year.

Planning for the prevention and control of the anticipated 1957 epidemic of Asian Influenza was the primary order of business at the July 31, 1957 and the September 18, 1957 meetings of the Committee.

The final meeting of the Committee will be held on Sunday, June 22, 1958 and will consider the medical aspects of the Maine Operational Survival Plan, the contemplated Federal Civil Defense and Office of Defense Mobilization Reorganization Plan, a proposed new FCDA Delegation to the Department of Health, Education and Welfare for the preparation of a preattack Medical Care Plan by the Surgeon General of the United States Public Health Association, new offensive and defensive developments in the fields of biological and chemical warfare, and a presentation of the accomplishments and of the unresolved problems still confronting Dr. Clyde Swett, Maine State Health Services Director.

At the July 31, 1957 meeting, the Committee was briefed on the available information about the Asian Influenza epidemic released by the United States Public Health Association and by the American Medical Association. It was agreed that every effort should be made to keep the Maine doctors

PMB-200

"Premarin" with Meprobamate new potency

Each tablet contains 0.4 mg. "Premarin," 200 mg. meprobamate

For undue emotional stress in the menopause

WRITE SIMPLY...



Supply:
No. 880, PMB-200 bottles of 60 and 500.
No. 881, PMB-400 bottles of 60 and 500.

Also available as PMB-400 (0.4 mg. "Premarin," 400 mg. meprobamate in each tablet).

AYERST LABORATORIES • New York 16, New York • Montreal, Canada

"Premarin®" conjugated estrogens (equine) Meprobamate licensed under U.S. Pat. No. 2,724,720 5830

informed and that work be started on plans to cope with an epidemic should it strike this state and that thought be given to a vaccination program and the voluntary rationing of Asian Influenza Vaccine while it was in short supply. The first publication of information appeared in the September, 1957 issue of THE JOURNAL OF THE MAINE MEDICAL ASSOCIATION on pages 323 and 324.

A second meeting of the Committee held on September 18, 1957 at which time it was voted to recommend that the Asian Influenza Plans for Maine be developed as a cooperative effort between the Maine Medical Association, the Department of Health and Welfare and the Maine Civil Defense and Public Safety Agency as recommended by the Special Committee on Influenza of the American Medical Association.

Dr. Daniel Hanley assured the Committee that the Council of the Maine Medical Association would go along 100 per cent on the above recommendation, and with this assurance the members voted to give Dr. Swett and the Maine Civil Defense Agency approval to go ahead with the formulation of a state, county and local plan to cope with the expected Asian Influenza epidemic. It was moved by Dr. Clyde Swett, seconded and carried that the Chairman of this Committee be appointed as a liaison officer or consultant in setting up this program with the Health Services Division of the State Civil Defense Agency.

The Chairman informed the Committee that the Special Committee on Influenza of the American Medical Association planned a series of articles in the J.A.M.A. designed to keep the doctors currently informed about all phases of the Asian Influenza problem. Dr. Daniel Hanley agreed to mail out a special information outline to every member of the Maine Medical Association and to include information in THE JOURNAL OF THE MAINE MEDICAL ASSOCIATION. Dr. Dean Fisher stated that he would include in the WEEKLY DISEASE REPORT a series of releases on Asian Influenza intended to provide summaries of departmental plans and local and national situations. The first of this series appeared in the week ending September 7, 1957; and a number of interesting and helpful releases followed over the next three months.

A meeting of the State Civil Defense Health Services Division, the County Deputy Directors #3, Dr. Dean Fisher with his Staff and the Chairman of this Committee was convened on September 24, 1957 and a detailed State Medical Plan to cope with the Asian Influenza epidemic was drawn up and approved. The Office of Maine Civil Defense and Public Safety published these plans and recommendations in the form of two directives and memo as follows:

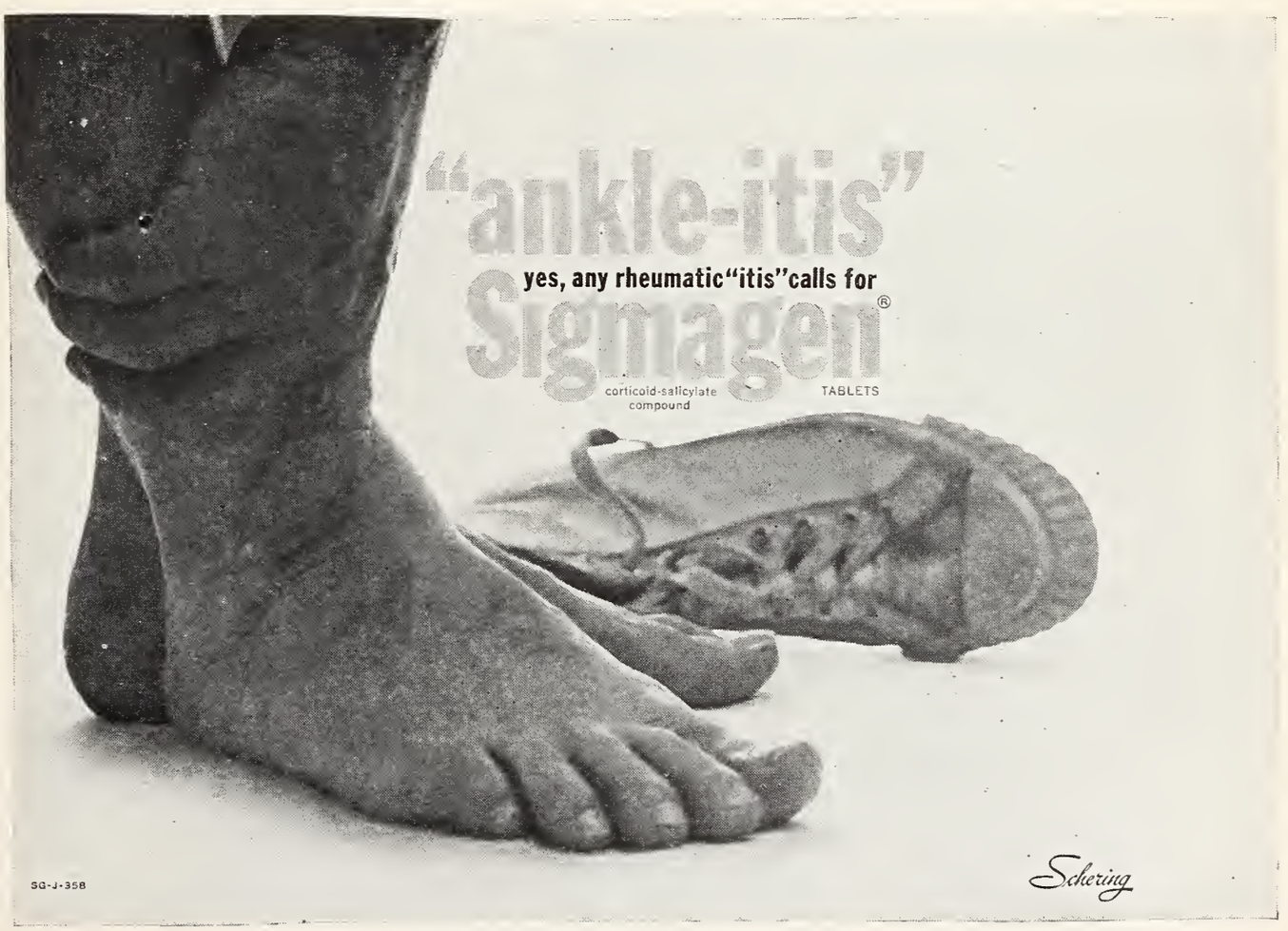
Directive #86-3.1 — September 24, 1957: "Civil Defense Health Plan for Control of an Asian Influenza Epidemic in Maine"

Memo #375-3.1 — October 1, 1957: "Suggested Voluntary Priorities in the Use of Asian Influenza Vaccine"

Directive #89-3.1 — October 28, 1957: "Guide to Medical Care Service Branch for Control of Asian Influenza Epidemic"

Copies of the above two directives and of the memo are on file in the Maine Medical Association office.

Dr. Clyde Swett reported at the September 18, 1957 meeting of this Committee that there was to be a federally-owned, 200-bed Civil Defense Hospital Unit stored at Houlton and at Machias. It was further proposed to store additional



federally-owned, 200-bed Civil Defense Hospital Unit at Auburn, Dover-Foxcroft and Waterville. (There is one mutually-owned, State-Federal, 200-bed Civil Defense Hospital Unit stored at Alfred.)

Other activities of the Committee members include attendance at the "Mass Casualty Care Course" at the Walter Reed Army Medical Center, Washington, D. C. by Dr. Clyde Sweet in November, 1957 and by the Committee Chairman in May, 1958. The latter as a member of the Committee on Civil Defense and of the Special Committee on Influenza of the American Medical Association attended a combined regional Civil Defense and Influenza Committee meeting in Atlanta, Georgia, in September, 1957 and in Dallas, Texas, in March, 1958, and two additional meetings of the Committee on Influenza in 1957 and one in 1958.

At the request of the State Civil Defense Agency and Dr. Clyde Swett, a member of this Committee, the Chairman arranged for the 333 General Hospital (1,000 bed) Army Reserve Hospital to put on a demonstration of how the 200-bed Civil Defense Emergency Hospital would be set up, operated and repacked. This demonstration was conducted by the personnel of the 333 General Hospital as part of the Armed Forces Day demonstration at Fort Williams, Maine; and the procedure was observed by Civil Defense medical personnel from various parts of the State and by the general public. This demonstration was a good example of a cooperative effort between the Reserve forces and civil defense personnel using civil defense demonstration equipment and supplies.

Other members of this Committee have been active in the State and County Civil Defense Organizations. This wide range of participation enables your committee to keep constantly in touch with the accomplishments as well as with the problems connected with disaster planning at all levels.

The Chairman takes this opportunity to thank all members of the Committee for their cooperation and support. Dr. Clyde Swett and the other members of this Committee on the State Staff and those members serving as County #3 Deputy Directors are particularly deserving of praise for the fine service they have rendered this state; and by their participation, they have reflected much credit to the Maine Medical Association.

This report is respectfully submitted on behalf of the entire Committee on Civil Defense of the Maine Medical Association.

Harry Butler, M.D.
Alvin A. Morrison, M.D.
Ralph A. Goodwin, Sr., M.D.
Edward K. Morse, M.D.
Allan J. Stinchfield, M.D.
James H. Crowe, M.D.
Richard C. Wadsworth, M.D.
Gilbert Clapperton, M.D.
Clark F. Miller, M.D.
Clyde I. Swett, M.D.
Dean Fisher, M.D.
Frederick T. Hill, M.D.
Franklin Ferguson, M.D.
Charles F. Branch, M.D.
Gerald H. Donahue, M.D.
John F. Reynolds, M.D.
Charles W. Steele, M.D., Chairman



with **BUFFERIN®**
IN ARTHRITIS

salicylate benefits with minimal salicylate drawbacks

Rapid and prolonged relief—with less intolerance. The analgesic and specific anti-inflammatory action of BUFFERIN helps reduce pain and joint edema—comfortably. BUFFERIN caused no gastric distress in 70 per cent of hospitalized arthritics with proved intolerance to aspirin. (Arthritics are at least 3 to 10 times as intolerant to straight aspirin as the general population.[1])

No sodium accumulation. Because BUFFERIN is sodium free, massive dosage for prolonged periods will not cause sodium accumulation or edema, even in cardiovascular cases.

Each *sodium-free* BUFFERIN tablet contains acetylsalicylic acid, 5 grains, and the antacids magnesium carbonate and aluminum glycinate.

Reference: 1. J.A.M.A. 158:386 (June 4) 1955.

ANOTHER FINE PRODUCT OF BRISTOL-MYERS

Bristol-Myers Company
19 West 50 St., New York 20, N. Y

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, September, 1958 | Number 9

Changing Trends In Caesarean Section

Edward M. Southern, M.D.*

In the dangers and difficulties of the technique of early Caesarean section can still be found the seeds of those controversies which were to grow and hold the field for the succeeding twenty years and which have yet to be completely resolved in our own time.

The operation of Caesarean section goes back to the very earliest times; in fact, we have no knowledge of who was the first to perform it. In pre-antiseptic days, only occasional cases recovered, the majority of women perished from hemorrhage, shock or sepsis, because before 1880 the uterus was not stitched.

In about 1876, a few years before the modern type of operation was devised, Porro reported satisfactory results from the removal of the uterus at the time of section. The stump of the uterus left by Porro's operation was brought through the abdominal wall and stitched to it to allow drainage. This manoeuvre represented a great advance. The names which should be specially associated with the modern operation are those of Kehrer and Sanger. The former deserves priority. In 1881 he recommended careful suture of the uterus. Sanger (1886) advocated the classical operation.

Some fifty years ago a young obstetrician purchasing the necessary tools of his trade might acquire an axis-traction forceps, a cranial perforator, a cranioclast, a sharp decapitating hook and a blunt breech hook; in order to be prepared should he be called upon by some exhausted colleague to complete a delivery. The doctor could not always be blamed for he had probably never seen the patient until called in long after labor had begun and, with the faith then reposed in forceps, but possibly not observing all of the restrictions placed upon their use, had proceeded to apply them and had attempted to deliver. These were the so-called cases of failed forceps of that day and many of them had to be terminated by craniotomy, or embryulcia for the risk of performing a Caesarean section was far too great.

What had the obstetricians of that time for and against them? They often had in their favor a greater knowledge and a surer mastery of the art of difficult vaginal delivery. By the standards of today, however, their equipment was extraordinarily meagre. Aseptic operating was just possible; against established infection they were almost powerless. Sterilization of the vagina before operation and sterilization of the uterine cavity after delivery of the fetus were commonly attempted. They rightly laid emphasis on every aspect of the uterine suture and accurate coaptation of the wound edges.

The change from the early practices to those of the present day has been a gradual one brought about through prenatal determination of pelvic size and shape and cephalopelvic relationships by direct and by x-ray examination, through a better understanding of labor mechanisms and by the increasing safety of Caesarean section. In the dangers and difficulties of the

*M.R.C.O.G. (Eng), Sisters' Hospital, Waterville, Maine.

Since the trend towards Caesarean section is increasing, it becomes important to consider to what extent the reduction in maternal mortality is offset by the subsequent morbidity of the operation.

technique of early Caesarean section can still be found the seeds of those controversies which were to grow and hold the field for the succeeding twenty years and which have yet to be completely resolved in our own time.

The attempt to deliver by forceps with the head still above the pelvic brim is now definitely and permanently relegated to the past. The "high forceps" operation is no longer a part of recognized technique. The major problem, involving the greatest degree of clinical judgment, is encountered in the "borderline" cephalopelvic disproportion group. In this group, pelvic measurements and pelvic form as determined by radiology and clinical examination leave a doubt as to whether delivery per vaginam without trauma to the mother or child is feasible. In these cases a trial labor is often indicated and it is in this group that the difficult decision has to be made between a midforcep delivery or Caesarean section. When the risks to the mother of delivery by either route are more or less equal then the interests of the fetus become paramount. Naturally several leading questions arise from the consideration of the subject from this viewpoint. (1) What, in fact, has been the alteration in maternal mortality from Caesarean section in the last fifty years? (2) Has a point of equalization of risks to the mother and infant been reached as between Caesarean and midforceps delivery? (3) What are the late sequelae of Caesarean section on the future reproductivity of the mother?

It would be difficult within the scope of the present work to debate in full the many aspects of these problems. There is, however, a large body of evidence to indicate the general direction of operative trends and their justification.

Maternal Mortality Associated With Caesarean Section 1911-1947

In order to obtain a valid basic comparison two groups of investigations have been selected for comment. The first is that of Kerr and Holland (1911-1920)[1] in which a total of 1218 sections were reviewed and the second is that of MacIntosh Marshall and Cox (1943-1947)[2] who presented comparable grouping of 3126 Caesarean sections.

In the first group (1911-1920) it was reported that the maternal mortality rate in early labor or before labor was 1.56 per cent; that in late labor it rose to 9.4 per cent and that after attempts at delivery with forceps it was as high as 26.5 per cent. These figures provided a clear warning, at that time, that Caesarean section should never be performed in late labor except under the most pressing circumstances. The teaching was incorporated in obstetric literature and has exerted its influence to this day.

The second group (1943-1947) showed figures that reflect the advances in general surgical technique, in anesthesia, in methods of treating shock and hemorrhage, in the treatment of infection, and in the introduction of the lower segment operation. They showed that the maternal mortality in operations performed before or in early labor had dropped to 0.13 per cent, in those of 0-6 hours of labor there were no deaths in 302 cases, in 6-24 hours of labor the death rate had dropped to 0.3 per cent. It is obvious, however, that the risks of operation vary with the indication and with the duration of labor or ruptured membranes preceding operating. W. J. Dieckmann[3] has pointed out that "one must remember that there is a mortality associated with some of the complications for which Caesarean section is advocated irrespective of the type of delivery." This view can be confirmed in the comparative study. The evaluation of the mortality of Caesarean section in world literature points to the general conclusion that, in spite of the increased scope of the indication, the operation itself is now being performed with increased safety. Donald G. Tollefson (Los Angeles)[4] reported 611 Caesarean sections in 5,541 deliveries (11%) and indicated that Caesarean section has gradually replaced high forceps delivery, versions, and many other vaginal procedures with maternal reduction of the incidence of the midforceps operation, and both fetal and maternal mortality.

Sherrier and Thebaut[5] report 3,306 Caesarean sections with a death rate of 0.2 per cent from 1941 to 1955; 2,286 Caesarean sections were performed with no maternal mortality.

Dugald Baird[6] shows that in Aberdeen a more frequent use of Caesarean section in primigravidas over 35 will improve fetal salvage. He states that the frequency of Caesarean section in women aged 35 or older was only 4% in 1938-1942. From 1951-1954 the incidence in this age group was 27.3%. Belonoschkin[7] collected 19,251 Caesarean sections reported in world literature from 1939-1953 with a total mortality rate of 1.79%. This figure included many series reported under most adverse and primitive conditions. The statistical approach does not, of course, give the whole picture as it deals with conclusions from isolated facts and may fail to display the facts in all their relationships to individual factors in each case. For example, in considering the place of Caesarean section in trial labor there is often a tendency to contrast its mortality rate with simple vaginal delivery in general. This is an error as the comparison is not with normal delivery, but with delivery after abnormally prolonged labor, or after a mid-cavity forceps operation which are the alternatives

that may face the obstetrician. Nor should it be forgotten that normal vaginal delivery also carries a certain mortality from the risks of anesthesia, sepsis and embolism.

Maternal Risks as Between Caesarean Section and Mid-forceps Delivery

A full and careful analysis of this aspect of the problem has been made by B. P. Watson[8] of New York. The figures quoted by this author are taken from the work of the Sloane Hospital for Women. Watson states, "By the end of 1941, the death rate calculated as a percentage of total operative deliveries was slightly higher in midforceps deliveries than in Caesarean section. Since 1944 there have been no deaths in either group and during that time there has been a fall in the number of midforceps deliveries and corresponding rise in the number of those delivered by Caesarean section. The justification of continuing on this course is enhanced by its saving of infant lives. Birth injuries have diminished as midforceps deliveries have declined and preventable fetal deaths have diminished as the Caesarean section rate has risen." In the Sloane Hospital in 1950 the ratio of Caesarean sections to midforceps deliveries was 7.1 per cent to 1.1 per cent respectively.

Watson shows that the point of equalization of risks with reference to maternal mortality between midforceps and Caesarean section was reached in 1938 in his analysis of vaginal operative mortality with midforceps (calculated as a percentage of total operative deliveries) and compared to Caesarean section mortality rate in the Ward Service of the Sloane Hospital.

Remote Effects of Caesarean Section

Since the trend towards Caesarean section is increasing, it becomes important to consider to what extent the reduction in maternal mortality is offset by the subsequent morbidity of the operation. The remote effects of Caesarean delivery must include a knowledge of subsequent fertility and fecundity, the degree of danger inherent in possible rupture of the uterine scar, subsequent pregnancy and labor and the patients subsequent gynecological history.

Charles M. Steer[9] (1950) sought an answer to some of these questions by the study of 1,295 primiparous patients. Spontaneous delivery was followed by further childbearing in 62% of cases. Caesarean section by 52% but mid-forceps delivery by only 35%. In cases of hemorrhage and shock, which occurred in 15% of difficult mid-forceps deliveries, only 25% had further childbearing. The inference is that a difficult delivery "per vaginam" especially if accompanied by hemorrhage is a greater deterrent to future childbearing than is Caesarean section.

Summary

1. Maternal mortality associated with Caesarean Section has decreased from 1.56 per cent in the 1911-1920 period to 0.3 per cent in the 1943-1947 period.

2. The ratio of Caesarean Section deliveries to difficult mid-cavity forceps deliveries has been in proportion of 7 to 1 approximately.

3. Caesarean Section is not such a great determent to future childbearing as difficult mid-forceps delivery.

References

1. Kerr M & Holland E.: Jour. Obst. & Gynaecology Brit. Emp. (1921). 28. 338.
2. McIntosh Marshall. C & L. Woodrow Cox: (Report XIIth Brit. Congress of Ob. & Gyn. July 1949).
3. Dieckmann, W. J.: Amer. J. Obst. & Gynec. 50 28. 1945.
4. Donald G. Tollefson: South. M. Jour. 46. 295. 1953.
5. Sherrier and Thebaut: West J. Surg. 64. 250. 1956.
6. Dugald Baird: Brit. Med. Jour. 2. 1159. 1955.
7. Belonoschkin: Munchen med. Wchnschr. 98. 48. 1955.
8. Watson, B. P.: Journal Obst. & Gynae. Brit. Emp. 6. 838. 1955.
9. Steer, C. E.: Am. J. Obst. & Gynec. 60. 395. 1950.

34 Gilman Street, Waterville

"In medical schools there is a growing tendency to look upon those whose interests lie mostly in clinical medicine as distinctly 'old hat.' The feeling is increasing that everyone of merit should be doing research. The excellence of a medical school as a school now appears to be judged more by the papers issuing from it than by the quality of its teachers." Howard P. Lewis; J.A.M.A., August 20, 1955; P. 1415. Selected by Andrew M. Babey, M.D., Las Cruces, N. M.

Acute Rheumatic Pneumonia

J. M. Jackler, M.D.* and L. A. Guite, M.D.*

A fatal five-week attack of acute rheumatic fever which presented clinical and pathological features consistent with acute rheumatic pneumonia is described.

The purpose of this paper is to present a case of fulminating rheumatic fever in which pulmonary symptoms overshadowed the other manifestations of the illness and permitted an ante-mortem diagnosis of acute rheumatic pneumonia. Although rheumatic fever is primarily a disease of childhood, this patient succumbed to an acute attack at the age of 51 years, after surviving attacks at the ages of 18 years and 48 years.

Rheumatic pneumonia, as a specific lesion in acute rheumatic fever, has been the subject of disagreement and confusion. The clinical symptoms may vary from a mild cough to hemoptysis and cyanosis.[1] Chest x-ray findings may be as mild as pulmonary congestion, or as severe as large confluent densities indistinguishable from atypical pneumonia, atelectasis, or infarction.[2] Microscopically "the affected parts show edema and hyperemia, local atelectasis and widespread focal hemorrhagic lesions involving lobules or groups of lobules. The alveolar walls are thickened by proliferating capillary endothelial cells and fibroblasts, and the interstitial tissue is thickened by edema and inflammatory and mononuclear cells. The alveolar lumina are filled with edema fluid and frequently by a hemorrhagic and fibrinous exudate. Mononuclear cells predominate and include desquamated epithelial cells and phagocytic cells."[3]

Case Report

M. A. (Sisters' Hospital No. 56-1330), a 51-year-old school teacher developed malaise, fever, and fatigue in April, 1956. Because she had two previous episodes of migratory polyarthritis, antibiotic therapy was started immediately. One week later, when migratory polyarthralgia appeared, full doses of adrenal corticosteroids were added to the antibiotic therapy. After one week of combined therapy, the onset of dyspnea and orthopnea necessitated hospital admission on April 16, 1956. The patient had an attack of migratory polyarthritis at the age of 18 years which was treated with bedrest for a period of six months. A recurrent attack at the age of 48 years was treated with salicylate therapy and bedrest for a shorter period. Following each illness, she returned to an active existence without experiencing any cardiopulmonary symptoms. Repeated examinations by her attending physician (L.A.G.) revealed no cardiac abnormalities.

Physical examination revealed an acutely ill woman lying on three pillows, experiencing a shallow tachypnea at 40 respirations per minute with a temperature of 103 degrees and a pulse rate of only 100 beats per minute. The blood pressure was 140/90; the neck veins were not distended with the patient in the erect or supine position, although there was cyanosis of the lips and nails. Because of her obesity, the heart borders could not be defined; the first mitral sound was crisp, but the first aortic sound was mushy; the second pulmonic sound was increased but less intense than the second aortic sound. There were soft early low-pitched grade one systolic murmurs at the mitral and aortic areas, but no diastolic murmurs or rubs were audible. There were dry crackling rales at the right base posteriorly; the remainder of the examination of the lung was normal in spite of the tachypnea, orthopnea, and cyanosis which were so evident. The liver was not enlarged and no ankle edema was present. The joints were warm, painful and tender, especially the left shoulder, right knee, and both ankles.

Laboratory results revealed a normal urinalysis, 11.5 grams Hemoglobin with 4,000,000 rbc/mm3, and WBC count initially was 19,700/mm, rising to 37,300 in four days and falling to 18,000 after two weeks of hospitalization. Differential studies of the white blood cells revealed a persistent granulocytosis ranging from 70 to 94 per cent with toxic granulation, and without an eosinophil ever being noted. X-ray examination of the joints revealed no bony pathology. EKG studies revealed a first degree AV block (PR interval 0.22 with a rate of 100) with minor ST-T changes in V1-V3. Follow-up EKG revealed the return of normal conduction, but a persistence of the ST-T changes in the right precordial leads without any shift of the QRS vectors or abnormality of the QT interval.

The patient received constant bed rest in an oxygen tent, antibiotics, adrenal corticosteroids, acetyl salicylic acid, aminophyllin, and potassium iodide. Digitalis

*Sisters' Hospital, Waterville, Maine.

and mercurial diuritics were used in the last three days of her illness.

Her hospital course was one of steady improvement in general condition, despite a daily spiking fever from 98 degrees to 103 degrees. On April 16, 1958, when the patient was orthopneic and cyanosed, the chest x-ray revealed cardiac enlargement (which persisted) and normal lung fields. On April 23, when she was in severe respiratory distress and crackling rales were heard only in the right lung base posteriorly, the chest x-ray revealed mild pulmonary congestion at both lung bases. On April 30, when the respiratory distress was at a minimum (without any change in medication), the "pulmonary congestion" had disappeared and the lungs were normal by x-ray, but expiratory wheezes scattered throughout both lungs were audible. On May 4, the patient had a sudden exacerbation of severe dyspnea, cyanosis, and coughed bright blood-streaked sputa. Dry crackling rales were present at the left lung base, the blood pressure was 110/70, pulse 90, and she was, and remained, afebrile. Digitalization and mercurial diuretics were started, the chest x-ray revealed multiple small and confluent densities throughout both lung fields, but greater on the left. The following day, her condition suddenly deteriorated, bubbling coarse rales were present over the entire lung fields, and the patient expired one hour later.

Post Mortem Examination

Gross Description

Heart: The heart is enlarged, measuring approximately 14 cm. in diameter. The epicardium is partially covered by a fibrinous exudate. The chambers are dilated and the myocardium is hypertrophic. The mitral valve is thickened generally, averaging 3 mm. in thickness. The free margin of the mitral valve shows the presence of minute veruccae characteristic of acute rheumatic fever. The aortic valves show similar involvement with similar veruccae. The pulmonic and tricuspid valves are normal. Section of the myocardium shows focal areas of fibrosis, averaging 1-2 mm. in diameter. The coronary arteries show moderate thickening without appreciable narrowing of the lumen at any point.

Lung: The lungs are large and heavy. The pleural surfaces are gray-pink in color, everywhere smooth, and marked by foci of anthracotic pigmentation. Section of the lungs reveal patchy areas of consolidation, averaging 2-3 cm. in diameter located in all lobes. The intervening pulmonary architecture shows engorgement of vessels, and some edema. Trachea and bronchi are not remarkable.

Microscopic Examination

Heart: Sections of heart muscle show small focal areas of replacement by fibrous tissue. The vessels are prominent and surrounded by a considerable amount of edema. At the poles of the vessels are characteristic Aschoff bodies, with fibrinoid degeneration of collagen and typical Aschoff cells. Most of these Aschoff bodies are reasonably acute in character. The epicardium shows a reasonably general inflammatory exudate, composed mainly of mononuclear cells, most of which are lymphocytes. Sections of mitral valve show pronounced thickening, fibrosis, edema, and Aschoff bodies identical with those described above.

Lung: Sections of lung show alveolar walls to be somewhat thickened throughout. The alveoli themselves contain varying types of material, many contain pigment-laden macrophages; elsewhere there are masses of fibrin. There are areas of consolidation with a hemorrhagic exudate filling the alveoli. Numerous neutrophils are present in these areas. Throughout the entire lung the alveoli contain definite amounts of protein-containing fluid. No Aschoff bodies or other evidence of a specific type of inflammatory process are recognized.

Final anatomical diagnosis: Acute rheumatic pancarditis, hemorrhagic bronchopneumonia of the lungs.

Conclusion

A fatal five-week attack of acute rheumatic fever which presented clinical and pathological features consistent with acute rheumatic pneumonia is described. The 51-year-old woman succumbed to the illness although she survived previous attacks at the age of 18 years and 48 years without cardiac residua.

References

1. Friedberg, C. K.: Diseases of the Heart, W. B. Saunders Co., Philadelphia, 1950 p. 733.
2. Ibid, p. 734.
3. Ibid, p. 710-711.

Dr. Jackler, 14 Gilman Street, Waterville, Maine.
Dr. Guite, 45 Elm Street, Waterville, Maine.

"As the Chinese proverb has it, 'Great men never feel great; small men never feel small.'" Dr. Alan Gregg, Am. J. Public Health, Dec. 1956, Vol. 46, Number 12, P. 1497. Selected by Andrew M. Babey, M.D., Las Cruces, N. M.

A Practical Approach To The Headache Problem

James Edward Poulin, M.D.*

Headache is the most common of the ills which beset mankind and rare indeed is the individual who has not experienced one. It is the complaint which the physician hears most often in his consulting room. Remedies for this symptom are first on the list of sales of all types of drugs and millions of dollars are spent on them each year. Such is the magnitude of the headache problem, that it is a constant challenge to physicians all over the world. Whether a headache can be attributed directly to man's behavior or whether it is a reaction to some stress or disease within him, it remains a most distressing symptom.

The frequency and severity of the attacks determine the extent to which the headache will incapacitate the patient. Because of this disabling factor, the problem represents a matter of extreme economic and social importance. American industry notes that the headache is the most frequent reason given for absenteeism. It is also a causative agent which tends to lower the individual's efficiency while he is working. Because of the fact that there are countless types of headaches, a clinical problem results which frequently appears to be insurmountable.

Medical and lay publications are deluged with articles pertaining to every phase and aspect of this most common of man's many ills. The multiplicity of causes, the mechanism of pain and modes of treatment have been discussed in articles throughout the history of medicine. A review of the recent literature on the subject however, reveals very few discussions of the diagnostic approach to this commonplace symptom. As a medical problem headache presents obvious difficulties as far as investigation is concerned. It is a subjective symptom in its entirety and thus it cannot be measured by the investigator.

Every physician realizes that there are numerous different kinds of headaches from the common, mild, nuisance, to those of sufficient intensity to indicate serious disease. The average patient is concerned, however, about the headaches which repeatedly appear at intervals even during good health. The aforementioned discussion would indicate that evaluation and therapy are extremely difficult and complex, requiring intensive study. Many investigators interested in the subject are beginning to realize that the practical approach to the solution is that of taking a careful and detailed history. In this symptom complex the patient's headache history will reveal to the physicians far more valuable information than physical examination or laboratory tests which are now available. Far too often the patient will consult his physician for this common complaint and the latter will check the blood pressure and then prescribe accordingly. In these instances this simple procedure is the entire basis of diagnosis and treatment. In reality the characteristic of a headache may frequently offer a definite clue to the diagnosis. The following pertinent points should be determined in a history of this complaint: (1) Duration. (2) Location, radiation, and depth. (3) Frequency and time of occurrence. (4) Intensity and progress. (5) Relations to other functions.

In securing the history it is important that the patient be permitted to describe his symptoms in his own words and the physician should not try to lead the patient to give the wrong answer. The case history should be detailed and yet not so long and involved as to fatigue the individual's patience. Leading questions, as listed above, should be employed and these will help to simplify the task of understanding the entire picture. This definite procedure will help to yield information which will permit the physician to classify the headache as to type and select the proper treatment.

Duration

In my experience the first and most important question to be obtained from the patient is that of the duration of the headache. You must carefully seek to learn just how long the patient has suffered with this symptom. If information is volunteered to the effect that the individual has had headaches daily for as long as he can remember then the seriousness of the complaint may be minimized. If, however, the patient states that his complaint is something which he has not experienced before, then he is deserving of careful investigation. This is especially important if the headaches are violent and persistent, as the problem could well be that of an intracranial neoplasm. Thus the shorter the history of the disease and the more violent the complaint the greater are the possibilities of its serious nature.

Location

Location of the headache is next in importance in the history. While the division of headaches on a basis of their location may not be entirely satisfactory on account of overlapping, it is true, nevertheless, that headaches in many conditions often present definite sites of predilection.

Frontal headaches and their possible causes will be described first, as this is the most frequent site of discomfort. Frontal sinusitis may affect the entire frontal

*Sisters' Hospital, Waterville, Maine.

region on one or both sides. There is a periodicity of pain which is exaggerated by stooping. Errors of refraction are responsible for the vast majority of headaches in this location. Straining of the intrinsic muscles of the eyes may cause frontal headache or deep orbital pain. There are also less common causes of this site of pain, such as anemia, ethmoiditis, trigeminal-neuralgia, and supra-orbital neuralgia.

Lateral headaches are not too common but they are chief characteristics of migraine, temporal arteritis and referred pain from ear disease.

Occipital headaches are premonitory symptoms of: meningitis, cerebellar tumor, uremia, sphenoid sinusitis, and chronic nephritis.

Generalized headache is naturally the most common descriptive location and it embraces the widest variety of causes. Arterial hypertension leads the list and this is readily demonstrated with the sphygmomanometer. Arteriosclerosis is next in occurrence and its characteristics are that of a diffuse somewhat constant sensation of pressure within the head. Cerebral tumors must also be considered and their signs borne in mind: optic neuritis, vertigo, mental changes and localizing symptoms. Among the other causes of generalized headaches are post-traumatic head syndrome, tuberculous meningitis, cerebral abscess, nasal obstruction and tension headaches.

Frequency and Time

Frequency and time of occurrence are next in importance in the history. A headache which is evident upon arising can often be attributed to involvement of any of the nasal sinuses. The discomfort in these cases generally disappears after the patient has been up a while and sinus drainage has taken place. Headaches from eyestrain origin have a definite time pattern and they become evident in the latter part of the afternoon after the patient has used his eyes all day. A *tension headache* on the other hand may appear early in the evening after the individual begins to relax from the tension of the day. *Nocturnal headaches* are fortunately rather uncommon, but they do occur in arteriosclerosis, kidney disease and intracranial lesions. *Allergic headaches* and migraine have no time pattern and their appearances depend upon food and emotional factors.

Intensity and Progress

Intensity and progress of the headache are questions which are worth spending some time on. The pain of the sinus disease is intense at its onset and it may suddenly cease as the morning wears on. This pain may be exaggerated by stooping. Eyestrain and errors of refraction produce headaches which may show a wide variation in different individuals. They are commonly aggravated or brought on by the use of the eyes and they diminish when they are rested. They also disappear when the refractive error is corrected.

Other types of headaches have characteristic patterns of intensity and progress. The *tension headache* which is the curse of the American business man is primarily one of nuchal tension. The mechanism is that of tension in the posterior muscles of the neck. The pain may then extend to the vertex and frontal areas, or down into the trapezius as muscular tension increases. No discussion of this subject would be complete without the mention of *migraine.* Physiologic study has determined that arterial dilatation of the middle meningeal vessels is the cause of this type of headache. The migraine patient is an intense, driving sort of individual, who is very ambitious. He is usually in a hurry and he is apt to be upset if he does not obtain his objective or is compelled to wait. It is in this type of case that the history is of extreme importance and because of the strong familial tendency it is helpful if the family history of the disease is obtained. The pain is cumulative and expansile in character, beginning in a small localized spot on either temple. It is penetrating, sharp and boring. It spreads to involve the entire side of the head and sometimes the neck. This disease readily exemplifies the last point in the history taking — relation to other functions.

Each unsolved case
presents a challenge to the
diagnostic skill of the attending physician
and the time spent in listening to the complaint
may reward the physician by winning for him
another sincerely grateful patient.

Relation to Other Functions

This disease not only causes head pain but it also disturbs visual functions, digestive function and mental equilibrium. The ocular phenomenon is too well known to discuss, but the mere mention of a disturbance in the visual field should cause the physician to place migraine first in the diagnosis. Nausea and vomiting often terminate the attack in a characteristic manner. This information is most often volunteered by the patient.

Allergic headaches are very definitely related to other functions of the body and this can be quickly produced by extraneous causes. The history obtained in these cases is not a pattern of time of day or location, but it is brought on by eating certain foods or exposure to certain allergens. Careful questioning with regard to food which was eaten the day of the headache may often reveal the precipitating cause of the disorder. This is especially so if the symptoms reoccur when that food is again consumed. Some people develop headache if they do certain things or go certain places. In most instances the cause of the trouble is the food eaten or other allergens in that locale.

The possibility of a head injury must be carefully ruled out as a *subdural hematoma* may well result from a blow which does not cause the patient to lose consciousness. The discomfort will date back to the time of the injury.

The patient who's symptoms do not clearly indicate a definite etiology should receive skull x-ray studies, as well as a lumbar puncture. Many obscure cases of brain tumor have been diagnosed in this manner.

It will pay the physician to learn something about the emotional stress under which his patient may be living. It is only natural that the family physician should be in the best position to interpret this aspect of the history.

It is sincerely hoped that some of the readers of this article may listen more sympathetically and carefully to patients complaining of headaches. We must remember that for years the public has been led to believe, through the medium of advertising, that headaches can be cured by aspirin and a host of analgesic proprietary preparations. A certain percentage of these individuals can derive some benefit from some of these preparations, but the majority require more extensive and specific medical help. The advice that is offered to the patient who presents this complaint may prove helpful only if a detailed history is obtained concerning the onset of the attacks, the time of day, their location, and accompanying symptoms. This will contribute to the making of a correct diagnosis since many of the diagnostic features are only obtained from the patient himself. No mention has been made of therapy as this is an entity in itself.

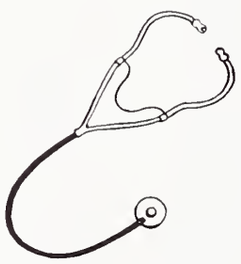
Summary

In summary the patient with this common complaint deserves a careful history as well as a careful physical, neurologic and ophthalmologic examination. Each unsolved case presents a challenge to the diagnostic skill of the attending physician and the time spent in listening to the complaint may reward the physician by winning for him another sincerely grateful patient.

References

1. Horton, B. T.; Symposium, Head and Face Pain. American Academy of Ophthamology 49; 22-23, 1944.
2. Baker, G. S.; Treatment of Neuralgias of the Head, J. Lancet 72; 525, 1952.
3. Bollenger, W. L. and Bollenger, H. C.; Diseases of the Ear, Nose and Throat, Philadelphia, 1943 Lea and Febiger.
4. Sluder, G.; The Role of the Thenotalatine Ganglion in Nasal Headaches, New York M.J. 87; 989, 1908.
5. Ryan, R. E.; Fiorinal® — A New Agent for the Treatment of Non-Vascular Headaches, Medical Times, April, 1952.
6. Shea, J. J.; Therapy of Headache, J. Oklahoma Midwest Clinic 11; 71-78, 1950.
7. Williams, H. L.; Headache from the Standpoint of the Otolaryngologist. J. Iowa Medical Society, 37; 45-52, 1947.
8. King, G. F.; Headaches and their Treatment, New York State J.Med. 51; 255, 1951.

177 Main Street, Waterville, Maine.



Agranulocytosis Resulting From Sandostene®

Benjamin Zolov, M.D.*

Each year a new group of antihistamine medications appears on the market, with claims of more efficiency, less side effects, sometimes smaller dosages with long-acting and short-acting properties. Since the use of these drugs is widespread, the general practitioner as well as the specialist uses these medications in the routine treatment of a large number of patients. Some of these drugs carry a warning as to the remote possibility of toxic reactions.

This report deals with a toxic reaction in a patient who was taking, among other drugs, the antihistamine, Sandostene. Agranulocytosis, with recovery, occurred in an elderly patient following the use of this drug over a four-month period.

Sandostene, a piperidine compound having the chemical formula 1-methyl-4-amino-N'-phenyl-N'-(2' thenyl)-piperidine tartrate, has been intensively investigated pharmacologically. It was found to occupy an intermediate position in histamine antagonism when compared with a large series of available antihistamine substances. It also exhibited low toxicity, marked anticholinergic and local anesthetic properties, and an inhibitory effect on tissue permeability in various types of experimental edema.

In view of these promising characteristics, Sandostene has been employed clinically since 1953, chiefly in the treatment of dermatologic and allergic conditions. Most of the early reports emanated from foreign investigators until 1955. Since then the drug has been used extensively in this country. Papers by Gottlieb,[1] Mantia,[2] Smith,[3] and Clein,[4] adequately cover the use of this drug as well as reviewing the literature comprehensively.

Adams and Perry[5] recently reported the first three cases of agranulocytosis in a patient who was being treated with Sandostene. Two patients died and one recovered but was incapacitated by a severe cerebral vascular accident.

It is to the credit of Sandoz Pharmaceuticals that the drug has been withdrawn from the market, and further study is being made. Sandoz Pharmaceuticals was very cooperative in supplying up-to-date information on the drug and they referred this case to the Federal Food & Drug Administration for investigation.

This seventy-two year old white, single female had been suffering with Chronic Urticaria for twenty-five years. She also experienced intermittent attacks of asthma during the same period although these bouts disappeared when the patient first came under my care, in July of 1948. She had a hysterectomy, done apparently for fibroids, in 1935, and a cholecystectomy in 1942. Subsequently she continued to have bouts of "indigestion" with vague pain which she sometimes localized in the substernal area, but without any associated chills or fever. She had one attack of jaundice prior to her gall-bladder surgery. The patient had been carefully evaluated by several physicians over the years regarding her urticaria, but no definite etiology was ever determined. The longest period of freedom between attacks of hives was three months. Usually they appeared in some form almost daily. For a two-year period prior to her first examination by me in 1948, her symptoms were partially controlled with Benadry.®

This patient has been under my care regularly for ten years, since 1948, and was seen about every two months during this period. As each new antihistamine appeared on the market, a trial of the new drug was given. However, the patient always returned to the use of Benadryl which she found usually controlled her symptoms with no side effects. She worked as a file clerk, part time, and was able to carry out her duties with minimal discomfort. Routine blood counts had been taken with normal findings on several occasions the past few years.

On September 21, 1957, she had a severe relapse of hives which did not respond to Benadryl. Her sleep was disturbed, and she was quite exhausted from the extreme itching. At this time she was started on Sandostene 25 mg. four times daily. In addition, for a one-week period she was given Sparine® 50 mg. four times daily. The patient phoned me one week later to tell me she was completely free of hives and had slept well during the entire period. She was planning to go on a vacation and she was advised to continue with Sandostene in the same dose. Sparine was discontinued. During the next four months no other medication besides Sandostene was taken except Dorbane,® which the patient took for constipation, one-half tablet every other night. She averaged about a bottle of one hundred 25 mg. Sandostene tablets each month for control of her hives. An office visit in November, 1957, found her comfortable and free of symptoms.

On January 25, 1958, I was called to see the patient at her home. At this time she complained of marked general malaise, vague epigastric distress, nasal congestion and recurrence of hives. No jaundice was noted at this time. She took Donnatal® and Benadryl for several days, and then returned to Sandostene again in divided daily doses totalling 100 mg. She attempted to return to work, but felt exhausted after two days and was confined to her home because of extreme exhaustion.

*Chief of Allergy Clinic and Senior Visiting Physician, Maine Medical Center.

It is to the credit of Sandoz Pharmaceuticals that the drug has been withdrawn from the market, and further study is being made. . . . They were very cooperative in supplying up-to-date information on the drug and they referred this case to the Federal Food & Drug Administration for investigation.

On February 18, 1958, she began to complain of extreme dryness of her tongue. Hives were persistent, and partially controlled with Sandostene. Her blood count was as follows: Hemoglobin 80%-12.8 gms; white blood count 1,310; Segmented 50; Lymphocytes 46; Monocytes 2; Eosinophiles 2; and Hematocrit 40.

Four days later she developed painless jaundice and clay colored stools. She complained of severe anorexia. She grew progressively worse at home, but refused to enter the hospital at this time. No liver or spleen could be palpated.

On February 27, 1958, the patient developed a severe sore throat, and complained of difficulty in swallowing. The entire pharynx was covered with a confluent white exudate. Her temperature was 101. Her jaundice deepened. She still refused hospitalization and was started on Panmycin Phosphate® 250 mg. four times daily. Fever, jaundice, sore throat and marked general malaise persisted.

On March 2, 1958, the patient agreed to enter the hospital for further observation and treatment. Physical examination revealed an elderly, thin female, lying fairly comfortably in bed. Skin: Noticeably jaundiced. Head, scalp, ears and nose: Negative. Eyes: Pupils equal, react well. Sclerae slightly icteric. Mouth: Clean tongue, a few residual patchy white areas over the right tonsillar and posterior pharyngeal region; slightly enlarged gland over the right side of the neck, no other adenopathy noted. Neck: No stiffness. Chest: Lungs are clear and resonant, no rales. Heart: Sounds of good quality, regular rate, faint apical, systolic murmur heard best over the 5th left space, transmitted to the left axilla, A2-P2. No enlargement noted. Blood pressure: 120/80. Abdomen: Soft; a healed, right upper quadrant scar was present and the spleen was felt about one finger below the right costal margin; the liver could not be palpated. No other masses nor tenderness noted. Reflexes, equal knee jerks. No Babinskis. Extremities: No edema, no varicosities.

The patient continued to run a low-grade fever in the hospital (99-100.6). She continued to have intermittent hives which were controlled with Benadryl. Laboratory data showed a white blood count of 800 with 87% Lymphocytes; 7% Segmented cells; 4% Monocytes; 1% Basophils. Three stool examinations were negative for occult blood. Throat culture yielded monilia. Sheep cell agglutination was negative. Total protein 6.2, Direct 4, Indirect 2.2. Widal negative. Alkaline Phosphatase 10.4 Bodansky Units. Cephalin floculation was negative. The urine showed bile; specific gravity 1018; clear dark amber; sugar, light green reduction; albumin 10 mg.; rare hyaline cast and 2 to 3 white blood cells on admission. Serum bilirubin 9.8, Direct 7.4, Indirect 2.4. Prothrombin 100%. Coombs' test negative. Transamines 28 units. A bone marrow study revealed the following: Promyelocytes 3.0; Myelocytes 3.0; Metamyelocytes 3.0; Polys 2.0; Lymphocytes 4.0; Erythroblasts 5.0; Nucleated red blood cells and normoblasts 79.0; Blasts ? 1.0. IMPRESSION: "There is almost complete aplasia of the myelocytic series. The absence of myeloblasts and lymphoblasts is against the diagnosis of leukemia. The platelets are numerous and there is a relative increase in megakaryocytes. I am unable to state the cause of the agranulocytosis from these studies."

The following consultation report was made on March 4, 1958: "On examination, she is observed to be moderately jaundiced with the jaundice being of lemon color. There is patchy erythema and superficial ulceration of the buccal mucosa and hyperemia of the pharynx. There is moderate regional anterior cervical adenopathy, but the nodes are discreet and freely movable. There are no supra-clavicular nodes and no posterior cervical nodes. Heart is of normal size and rhythm, no murmurs heard. Lungs are clear. Abdomen: Slightly distended, the spleen is felt 1 in. below the left costal margin and is soft and non-tender. The liver is felt 2 in. below the xiphoid in the midline with a blunted edge and is tender. A definite edge could not be felt under the right costal margin. However, there was fullness in the right lower quadrant and it was difficult to properly palpate the abdomen in this area. Just below the umbilicus, in the midline, there was an impression of a mass about 3 cms. in diameter and in the lower quadrants, there is also impression of several small masses which could well be feces in large or small bowel. Femoral and inguinal and epitrochlear nodes were not remarkable. In the left axilla there were 4-5 nodes about 1-2 cms. in diameter, some of which felt rubbery.

"There were no spider nevi, no palmar erythema.

"Laboratory data is reviewed. A serum bilirubin with greatest increase in the direct acting bilirubin suggests an extra hepatic obstructive component despite elevation of the alkaline phosphatase. A normal

cephalin floculation and transaminase are strong bits of evidence against any primary parenchymal liver disease. Obviously, the most critical problem at the present time is the patient's agranulocytosis, etiology of which is obscure. Antihistamines have been reported to cause blood dyscrasias of this type and one wonders if the onset of her symptoms in conjunction with the ingestion of Sandostene is more than coincidental. The slight enlargement of the spleen along with the general picture suggests the possibility of primary hypersplenism but this would not satisfactorily explain her jaundice and the slight liver enlargement. The bone marrow picture, fairly well rules out any leukemia and also seems unlikely that a lymphoma would result in this type of picture unless there were actual invasion of the bone marrow; although, of course, secondary hypersplenism has been reported in conjunction with the lymphomas.

"At this stage, in view of the possibility of a drug-induced agranulocytosis, I would suggest rather vigorous metisteroid therapy with continuation of the protection afforded by broad spectrum antibiotics."

At this time she was started on Aristocort® 20 mg. daily along with Panmycin® 1 gm. daily. Her sore throat and hoarseness subsided. Her appetite improved and the jaundice began to diminish. A repeat white blood count on March 11, 1958, revealed a count of 1550; Lymphocytes 56%; Monocytes 7%; Polys 37%; Hemoglobin 82%. Her temperature dropped to normal on March 12, 1958. She felt considerably improved and had no further hives. Two days later she was discharged from the hospital. At this time the spleen and liver edge could be palpated just below the costal margin.

The patient continued to improve at home. She gained four pounds. The jaundice entirely subsided. At the end of two weeks the Aristocort was gradually reduced and finally discontinued.

Repeat blood studies on March 24, 1958, revealed the following: Hemoglobin 83%-13.2 gms; red blood count 4,500,000; white blood count 11,200; Platelets normal; Segmented 77; Lymphocytes 20; Monocytes 3; Phosphatase Alkaline 13.4 Bodansky Units; Bilirubin 1.4 mg.%, Direct 1.0 mg.%, Indirect .4 mg.%.

A blood report on May 19, 1958, revealed the following: Hemoglobin 80%-12.7 gms.; white blood count 5,650; Platelets normal; Segmented 61; Lymphocytes 24; Monocytes 10; Eosinophiles 5; Hematocrit 35; Phosphatase Alkaline 4.8 Bodansky Units. The liver and spleen were not palpated.

The patient was started on Pronemia® one capsule daily. She had one brief flare-up of hives at this time which was promptly controlled with Benadryl and has been free of them to date. She has continued to improve gradually since then.

Comment

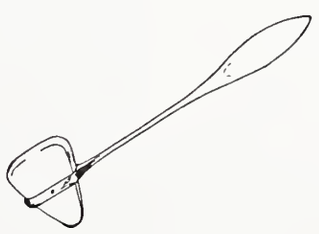
A case of agranulocytosis with recovery in a patient who had been taking Sandostene in 100 mg. daily doses for about a four-month period has been presented. Since no other drug of known toxicity was used during this period of therapy, it is presumed that the Sandostene was the etiologic factor in her illness.

Sandoz Pharmaceuticals acted wisely on July 9, 1958, to remove this antihistamine from the drug market until further investigation can be carried out.

References

1. Gottlieb, P. M., and Yanoff, J.: Clinical evaluation of Sandostene, New Antihistaminic Drug, in Allergic Diseases: Results of "Double-Blind" Investigation, Ann. Allergy 15:305-314 (May-June) 1957.
2. Mantia, La L.: Clinical evaluation of Sandostene plus Calcium in Bronchial Asthma: Spirometric Studies, Ann. Allergy 15:506-520 (September-October) 1957.
3. Smith, S. F.: Clinical Appraisal of a new Antihistamine in Allergic Disease, Ann. Allergy 15:25-29 (January-February) 1957.
4. Clein, N. W.: A new antihistamine for treatment of various allergic manifestations, Ann. Allergy 15: 163-168 (March-April) 1955.
5. Adams, D. A., and Perry, S.: Agranulocytosis associated with Thenalidine (Sandostene) Tartrate Therapy. J.A.M.A. *167* 1207-1210 (July 5) 1958.

296 Congress Street, Portland Maine.



A Co-ordinated State Program For The Mentally Retarded *

Peter W. Bowman, M.D.†

An invitation to present suggestions for a co-ordinated State program for the mentally retarded is a challenge indeed. It reflects our present-day calamity which calls for integrated and united efforts to overcome the professional dilemma of our etiological ignorance in the field, to resolve frustrations in the area of effective treatment and to map out inclusive programs aiming at the prevention of mental retardation.

The syndrome of mental retardation is so complex in its dimensions that there are consequences for the prenatal months as well as for the period of old age. It has, simultaneously, somatic, intellectual and emotional aspects of varying intensity and quantity. It presents elements of relative chronicity as well as those of a more transient nature. Accordingly, a sound co-ordinated program for the mentally retarded will have to reflect this complexity and, at the same time, must attempt to proceed with realistic, practical, and economic action.

One may want to hesitate in proceeding with this presentation and contemplate for a while in an effort to establish perhaps a schedule of priorities for conducting research, also more dormitory space in our pathetically overcrowded residential facilities, or an increase in personal services in our generally understaffed institutions or for establishment of special classes, or for provisions for counselling services, for training programs for professional staffs, or diagnostic clinics, sheltered workshops and halfway houses. There may be merit in priorities under appropriate circumstances.

Mental retardation until rather recently has been lagging so much behind, however, in utilizing modern psychiatric principles and new sociological insights and even well-established advanced educational and psychological methods that the need for concerted and simultaneous efforts in all areas is generally recognized and definitely indicated.

Research

An enlightened far-sighted and effective State program will become a dynamic force if it does include research as an essential part of administrative concern. People who are either not interested in or else not competent to conduct research projects have tried to create the impression that research programs should be limited to a few selected institutions placing particular emphasis on the medical schools thus presenting a seemingly plausible argument for their own failures to make any contributions. I will gladly admit that certain research projects can only be carried out in specialized facilities, staffed with highly skilled technicians. However, there are many practical and theoretical investigations which could, and should, preferably be conducted in our diagnostic clinics and residential centers for the mentally retarded.

Administrative procedures, medical techniques including the broad scope of the ancillary and consultant's specialist services, knowledge of causation, efforts at prevention, all these areas can, and will, benefit constructively from inquisitive research.

In many instances, the initial attraction and the subsequent employment of a well-trained and industrious worker will depend on our ability to offer opportunities for research rather than an exorbitant salary in a dull intellectual climate. Conversely, the absence of critical investigations as part of our professional work may invite complacency and preoccupation with custodial care problems from which neither patients nor staffs derive great benefit. Academic and in-service training programs are likely to improve in quality if they reflect knowledge, experience and active participation in research thus contributing to the competence of our professional and sub-professional staffs. I would like to go one step further and contend that a State program without research as one of its major preoccupations will be mediocre, unsatisfactory and uneconomical.

This statement may explain to you the particular emphasis I am expressing.

Administration

This phase of our work is particularly difficult. Confusion about emphasis, jealousy among the various professions which, under more ideal circumstances form the professional team and the involvement of so many different agencies and services, are contributory factors. Duplication, misunderstanding and even hostility may be the result where effective co-operation must be our aim.

Essential, it would seem to me, is the establishment of a State Committee on Mental Retardation which should consist of representatives from all agencies who

---

*Presented at the Northeastern Regional Meeting, N.A.R.C., June 6-8, 1958, Hartford, Connecticut.

†Mental Hospital Administrator, Medical Superintendent, Pineland Hospital and Training Center, Pownal, Maine.

Mental retardation until rather recently has been lagging so much behind . . . in utilizing modern psychiatric principles and new sociological insights and even well-established advanced educational and psychological methods that the need for concerted and simultaneous efforts in all areas is generally recognized and definitely indicated.

serve mentally retarded children and adults. These include the Departments of Education, Mental Health, Public Health, Welfare, Labor and Industry, and Correction. The voluntary agencies should nominate one or two representatives to this Committee. A liaison officer from the Federal Government, Department of Health, Education and Welfare appointed to the Committee might prove to be an advantageous and practical move.

The function of the Committee would include reviewing, co-ordinating, and integrating facilities, policies and practices in the existing agencies, and presenting recommendations for administrative improvements and statutory revisions and innovations. It may be expected that such a Committee would gradually resolve the existing widespread administrative confusion and replace it by an efficient and effective organizational structure. Needless to say the Chairman of such a Committee should be experienced in co-ordination, endowed with vision and have a maximum of professional qualifications and status.

Facilities

A. *Community resources.*

Obviously, it is necessary to include in our planning, the prenatal, paranatal and postnatal life situations. Consequently, good prenatal hygiene and guidance, competence and skill in the process of delivery, prompt and equally competent examination of the newborn infant are essential. This does not require new facilities. Professional education must provide the obstetrician, the pediatrician, the public health nurse, the social and public assistance worker with sound knowledge and experience in the area of mental retardation. Preventive considerations and techniques in the pre- and paranatal periods must become a definite and detailed part of our curricula in the medical schools, in our teaching hospitals and our schools of nursing. Simultaneously, education of the public is necessary to motivate people to constructive co-operation.

In the event of mental retardation earliest identification is essential for comprehensive future planning. The pediatrician must be trained in the basic concepts of special education, psychology and child psychiatry to assist parents in intelligent planning. The frequent advice "forget about your child, put him in an institution" reflects only too often professional ignorance as to the potential of the child and the ability and availability of existing community resources and methods. Communication and co-ordination of treatment and educational plans for the child between the various specialists (pediatrician, orthopedic surgeon, speech therapist, ophthalmologist, neurologist, physiotherapist, educator, psychotherapist, vocational rehabilitation counselor, social worker, occupational therapist, parent counselor) must be established and maintained. A more than superficial knowledge of each specialist's role in the total treatment plan will facilitate good understanding, mutual appreciation and with it, one may hope, good results for our patient. This open-minded and positive attitude toward the person afflicted with mental retardation and the professional challenge involved forms the basis for success in our efforts to effect teamwork between private practice, public schools, voluntary, State and Federal agencies and the parents.

The representatives of well-baby clinics, crippled children's services, school and guidance clinics, mental health clinics, public school systems and vocational rehabilitation services will have to learn to accept the mentally retarded child and adult as part of their professional responsibility. We have neither the necessary professional personnel nor sufficient funds to duplicate existing services in order to accommodate the mentally retarded. He is as much a member of our society as the emotionally disturbed, or as the person with cerebral palsy, or, if you wish, as the presumably healthy individual. Integration, not segregation, must be and is, in effect, our aim.

In conclusion, may I repeat that our social workers, psychologists, medical doctors, and the many other specialists in the various ancillary services must be trained to consider the syndrome of mental retardation as part of their professional education and responsibility

B. *Residential Centers.*

The names by which our residential facilities are known reflect the confusion as to purpose and functions. "State Home," "State Colony," "State School," "Training School," "State Hospitals and Schools" are indicative of a variety of philosophies ranging from one of detention and segregation to one of comprehensive therapy. Accordingly, administrators may be found who are politicians, others are social workers, psychologists, educators. Some institutions are headed by physicians or

dentists. And, again, a number of States require their institutional heads to be qualified psychiatrists and certified Mental Hospital Administrators. Time does not permit to enlarge on the variety of programs and facilities, nor on the prevalence of preoccupation with good food and adequate shelter, or with having year 'round entertainment for the patients at the expense of therapy, or with having a competent and comprehensive treatment program.

There can be no doubt that our residential facilities today are dealing with patients whose admission has been precipitated by psychiatric, medical or social emergencies. Consequently, it must be our professional aim to diagnose and to treat the psychiatric or medical liabilities and to overcome the social difficulties as soon as possible and as effectively as possible so that the patient may be returned to the community. This purpose, then, must determine organization and program.

Since we are discussing a highly complicated and multi-disciplinary hospital operation it is essential that the program be formulated, presented and supervised by a professional hospital administrator.

Diagnostic methods must include psychiatric-neurological evaluation, psychometric and psychodiagnostic techniques, educational classification, testing of eyesight, hearing and speech, social investigation and all such laboratory tests as may be indicated. Presentation of all findings at the diagnostic staff conference soon after admission is customary. Here etiological factors are being identified, a comprehensive treatment plan and tentative prognosis are being formulated.

Treatment is then started without delay. It may include drug therapies, rehabilitative surgery, psychotherapy, academic and vocational education, physiotherapy, speech therapy, occupational and recreational therapies, remedial techniques including Braille, music therapy, physical education and vocational counselling. The variety of services involved requires a maximum of communication and co-ordination. Periodic re-evaluation of the individual patient is indicated and preparatory steps to return the patient into the community should be taken as soon as feasible.

Services for chronic and for dependent patients will have to include many services found in the acute treatment section, modified, however, to meet the particular needs of these patients. Emphasis should be placed on activity and training to attempt improvement in even those cases which are customarily labelled "hopeless."

The hospital for the mentally retarded will have more professional disciplines than are usually found in the institution for the mentally ill. However, both types of hospitals are similar and the logical organizational place of the hospital for the retarded is within the framework of the State Department of Mental Health.

Halfway House, Sheltered Workshop

Our attitude toward the more severely retarded has undergone appreciable changes. For example, our institutional placement program at Pineland Hospital in Maine has kept some 150-200 in gainful employment in the community. The average I.Q. rating of these patients approximates 53. Today, it is a foregone conclusion that most of our educables and many trainables can and do learn to get along in the community if given a fair chance. Besides these, there is a large number of permanently hospitalized patients who could adapt themselves to a sheltered environment in the community, and under appropriate conditions, become partially or even totally self-supporting. I am thinking of those numerous patients whose severe physical handicaps require special provisions and of those more severe retardates who are willing and capable workers, cooperative and kind by nature if properly guided and supervised. We find them in our institutions and in our community classes for the trainables. If we wish to find a constructive place in our society for these people we have to make provisions which will meet their particular needs as indicated by their physical and mental limitations as well as by their ability to make individual contributions at their level. This calls for two essentially different facilities where social liberty and economic efficiency will vary widely. Time does not permit a detailed description of such a set-up. Pilot studies have been carried out and information is available in the literature and can, no doubt, be obtained through the Office of Vocational Rehabilitation.

I wish to merely point out to you that halfway houses and Sheltered Workshops will have to be planned for if our programs for the trainables and the severely physical handicapped, mildly and moderately retarded are to be constructive and if they are to lead to a long range plan which will justify such programs.

Personnel Management

One cannot discuss a State program without considering a problem which is, perhaps, the biggest single block on the road of progress, namely, personnel management. A well designed program, sufficiently financed, will fail if it does not attract a sufficient number of well qualified professional workers to translate into reality. Time and again has our failure to solve this problem caused intense feelings of frustration. Therefore, we must evaluate our presently applied principles of personnel policies and explore possibilities of improving our techniques.

It is amazing to see how agencies are being forced to offer entirely unrealistic salaries which might be attractive to people who are so inadequate that they cannot get employment elsewhere. How can we expect to help our patients when we are forced to hire either incompetent or disturbed individuals. Interpersonal tensions, rivalry and defensive mental mechanisms will soon disrupt staff accord and reflect on patient attitude and behavior. Yet this is a real problem in many agencies and also in interagency relations. The least we can afford is to pay competitive salaries to competent person-

nel in responsible and leading positions. Their presence, the competence and knowledge they display and communicate to their fellow workers, then, would attract others of fine qualities who, for the sake of training and experience might join the agency in spite of low remuneration.

In view of the prevalent complacency in this respect a militant attitude to solve this problem is necessary. An aggressive attitude may well be the therapy of choice and I firmly believe that the need for economy precludes any other approach.

Attractive employment conditions are not limited to competent leadership. Adequate facilities and sufficient supplies are essential. How often do we find a teacher, teaching in a basement room, a psychologist testing in a noisy ward linen room, frequently interrupted, or see professional workers wasting valuable time typing their own reports because there is no adequate school building, there is no appropriate space allocated to testing, play and group therapy, and there is no inexpensive clerical aide available for typing?

Although mentioned earlier I would like to emphasize again the need for intellectual stimulation through research projects. Particularly, inter-disciplinary studies tend to detach the professional from the often narrow concepts of his own specialty, leading him, if he is capable of it, to use imagination, widening and deepening his scope of knowledge and helping him to gain understanding of the other disciplines and their potential contributions.

We must be prepared to assist our co-workers in improving their formal education by liberal provisions for educational leaves, stipends, grants, etc. Only in this way can we hope to ever succeed in overcoming the prevalent shortage of professional personnel, not only in our own agencies, our own State, but nationwide. It is obvious that this requires a concerted effort everywhere. This is an area of responsibility which we, as administrators, and you, as organized parents, must face with determination and in the desire to solve the problems with common sense and speed.

Along with routine work we should assign our professional workers to special duties which would broaden their interest. They should be permitted to attend professional conventions and meetings to exchange ideas. Seminars, work-shops and discussion panels should be included in our program planning to guarantee stimulation and progress.

It is this liberal and academic atmosphere which will best contribute to our aim of training more and better social workers, psychologists, psychiatrists, pediatricians and the many specialists who are members of our team.

Financial Responsibilities

When discussing a State program one cannot overlook the financial implications. An expanding multi-million dollar program requires substantial financial resources.

I firmly believe that the problem of financing deserves careful study and consideration.

One of the basic considerations to my mind is: How much further can we go in expanding tax-supported operations when the fiscal income does not permit such expansion as in times of recession?

Do we have to discontinue, at least temporarily, expansion where needed and curtail, perhaps, existing necessary services to balance fiscal expenditures with available funds? Certainly we cannot afford deficit spending for extended periods of time without being forced to face our debts realistically.

Does this mean that we can do nothing but accept the existing conditions as determining the rate of progress and, therefore, wait patiently or impatiently for better times?

Frankly, I do not think that this is the only alternative. I previously mentioned the changing attitude toward the mentally retarded person and how integration is one of his outstanding needs. A change in philosophy is a matter of intellectual insight and emotional adjustment which we can work for without spending funds and which we can start or continue to work for without delay.

The National Association for Retarded Children, or, more specifically, you parents, have started to continue fund-raising campaigns. Such projects have not reached the proportions which they deserve. It is you, the people with strong personal motives and with the insight gained through the event of mental retardation in your family, who can make the job of fund-raising the success we are all hoping for.

Another individual contribution can be made by changing our attitude toward diagnostic and residential services.

How often do we hear the argument "I am entitled to this examination," and, "The State ought to take care of my child"? Why do so many people feel that a psychological evaluation should be given without charge when it takes years to train a psychologist? Why do many parents feel that the advent of a mentally retarded child relieves them from financial responsibility altogether? Should we not do everything in our power to pay for our child's education, training and treatment, or at least, as much as if that child were living with us in our family?

I firmly believe that parental integrity and the parents' willingness to assume reasonable financial responsibility for their child's board are sound means to convince legislators and fellow citizens to continue improving facilities and maintaining existing services.

To face this responsibility will permit the National Association and its affiliates to attend legislative and civic planning committee hearings as representatives of mature and respected citizens rather than as a special interest pressure group.

Box C, Pownal, Maine

SPECIAL ARTICLE

Chemotherapy Of Specific Infectious Diseases Of The Lower Respiratory Tract

Report of Committee on Chemotherapy and Antibiotics
American College of Chest Physicians

The majority of pulmonary infections can be successfully treated by the judicious use of antibiotics and other chemotherapeutic agents. It is important to establish a diagnosis of the type of infection in all infectious diseases of the respiratory tract. Cultures should be made prior to therapy whenever feasible. Sensitivity tests of the organisms found in all prolonged infections are essential guides in the care of the patient. It is sometimes difficult to make an exact bacteriological diagnosis at the onset of a pulmonary infection, and treatment may have to be started at once. A simple Gram's stain of a fresh sputum specimen is important in determining the type of therapy while awaiting the cultures. If the diagnosis is still obscure and the patient has a severe infection, therapy designed against both gram-positive and gram-negative organisms should be instituted. Obviously all other clinical guides will be useful, such as the manner of onset of the disease, the characteristics of the sputum, the white count, the cold agglutinins, etc. Treatment should be vigorous and should be continued until all signs of infection have cleared. This is important to prevent development of chronic disease of the lungs and bronchi.

Classification of Pneumonias

I. *Bacterial*
   a. Pneumococci
   b. Streptococci
   c. Staphylococci
   d. Klebsiella Pneumoniae
   e. Hemophilus Infections
      1. Pertussis
      2. H. Influenzae
   f. Pasteurella Infections
      1. Pasteurella Pestis
      2. Pasteurella Tularensis
   g. Coliform, Proteus and Pseudomonas (gram-negative bacilli present in the intestinal tract)
   h. Salmonella Group
      1. Typhoid
      2. Paratyphoid A.B.C.
   i. Brucella
   j. Anthrax
   k. Glanders

II. *Viral* (Known and Probable)
   a. Psittacosis
   b. Influenza A & B
   c. Variola
   d. Varicella
   e. Rubella
   f. Lymphocytic Choriomeningitis
   g. Primary pneumonitis of infants
   h. Infectious mononucleosis
   i. Erythema Exudativum Multiforme
   j. Primary atypical pneumonia

III. *Rickettsial*
   a. Typhus
   b. Rocky Mountain Spotted Fever
   c. Q Fever

IV. *Mycoses* (Producing a pneumonia-like picture)
   a. Actinomycosis
   b. Nocardiosis
   c. Blastomycosis
   d. Coccidiodomycosis
   e. Histoplasmosis
   f. Moniliasis
   g. Cryptococcosis
   h. Aspergillosis
   i. Geotrichosis
   j. Penicilliosis
   k. Sporotrichosis

Treatment of Pneumonias

I. Bacterial Pneumonias

Pneumococcal Pneumonia. Penicillin is the drug of choice in the treatment of pneumococcal pneumonia. It is best given by the intramuscular route, using 300,000 units of aqueous penicillin every three to four hours, or 600,000 units of procaine twice daily. Oral penicillin is not advised except in mild cases. Therapy is continued until the temperature has been normal for three

*Reprinted from "Diseases of the Chest," Official Journal of the American College of Chest Physicians, Volume XXXIII, Number 4 (page 435), April, 1958.

days. Larger or smaller doses may be used depending on the severity of the disease. The sulfonamides are highly effective in the treatment of pneumococcal pneumonia. The dosage is 6 to 8 gms. daily. The broad-spectrum antibiotics, including tetracycline, Chloramphenicol® and erythromycin are all effective, but should still be considered second to penicillin.

Streptococcal Pneumonia. Treatment of streptococcal pneumonia is the same as that of pneumococcal pneumonia.

Staphylococcal Pneumonia. Treatment of staphylococcal pneumonia requires considerable care in view of increasing development of staphylococcal resistance to most antibiotics. Sensitivity tests should be made early. If the organism is penicillin sensitive, large doses of penicillin, two to four million units daily should be given and no other antibiotic need be given with it except perhaps streptomycin. If the organism is penicillin resistant and susceptible to erythromycin or novobiocin then one or the other of these drugs should be used. Vancomycin, which is not yet on the market, is an excellent bactericidal agent for staphylococci and should be used if the organism is resistant to other more readily available drugs. In the seriously ill patient who is not responding to the prescribed therapy, bacitracin in doses of 25,000 units every six hours should be added. The nephrotoxic potentialities of bacitracin must be watched. Treatment of staphylococcal infections should be prolonged for three or four weeks.

Klebsiella Pneumonia. Test of susceptibility should be performed but usually this type of pneumonia is best treated by streptomycin 2 to 4 gms. daily plus one of the tetracyclines in 4 gm. dosage initially. After response to therapy the dosage may be lowered. Sulfadiazine has also been quite effective in conjunction with streptomycin. Treatment must be continued for several weeks because of the severity and chronicity of the disease. The potential toxicity of streptomycin when used too long must be kept in mind.

Hemophilus Infections. Chloramphenicol or tetracycline in doses of 2 to 4 gms. daily are effective in both pertussis and H. influenzae infections. Sulfadiazine or streptomycin should be used in combination in the serious case.

Pasteurella Infections. Sulfadiazine, streptomycin, Chloramphenicol and tetracycline have all proved effective in the treatment of plague pneumonia. Streptomycin is the drug of choice. Streptomycin is the ideal agent in the treatment of tularemic pneumonia in dosage of 2 to 4 gms. daily. The broad-spectrum antibiotics are also effective.

Coliform, Proteus and Pseudomonas Group. This group is becoming increasingly important as a result of antibiotic therapy. Sensitivity tests must be done to find the most effective drugs. The organisms may be sensitive to the broad-spectrum antibiotics, sulfadiazine and streptomycin. A tetracycline may be sufficient for the coliform and proteus types of pneumonia if the organism shows susceptibility to these agents but combinations of antibiotics are usually necessary. If these organisms are resistant combination of tetracycline and streptomycin in full dosage should be tried. If response does not occur penicillin, in large doses, in combination with Chloramphenicol should be tried. In resistant infections polymyxin may be used with a tetracycline. Polymyxin is the drug of choice for pseudomonas pneumonia. The drug is both nephrotoxic and neurotoxic. It should be used with caution. In general, infections by this group respond poorly to all antibiotics.

Salmonella Group. The typhoid bacillus is a rare cause of pneumonia. Chloramphenicol 2 to 4 gms. daily followed in a few days by 1 gm. dose is specific. In the other Salmonella infections, chloramphenicol or one of the tetracyclines may be used.

Brucella Infections. Brucella infections are best treated by a combination of tetracycline, ¾ gm. every six hours in combination with streptomycin 1 gm. daily for a month.

Anthrax. Pulmonary anthrax is a rare complication of anthrax but when present is a very serious and fulminating disease. The tetracyclines are the drugs of choice, though penicillin and the sulfadiazines have also been used successfully.

Glanders. Lung lesions occur in about one-quarter of the glanders cases. Sulfadiazine and streptomycin are effective in the treatment of glanders. The broad-spectrum antibiotics have also been used successfully.

II. Viral Pneumonias

Psittacosis. The tetracyclines are the drugs of choice using 4 gms. daily for the first two days, foilowed by a 2 gm. daily dosage. Penicillin has been used successfully.

Virus Influenzal Pneumonia. There is no known specific for influenzal pneumonia.

Variola. Pulmonary lesions often occur in smallpox. There is no specific for the primary disease but because of secondary infections by bacteria appropriate chemotherapy for these infections should be used.

Varicella. Pneumonia occurs rarely. Treatment should be directed to secondary bacterial infections.

Rubella. Bronchopneumonia is a common complication of measles. While there is no specific for the measles virus, superimposed bacterial infections are frequent and can be successfully treated by penicillin or the tetracyclines.

Lymphocytic Choriomeningitis. Pneumonia occurs in lymphocytic choriomeningitis. Treatment is symptomatic.

Primary Pneumonitis of Infants. There is a serious disease in the newborn and premature infants probably due to a virus. There is no known specific therapy.

Infectious Mononucleosis. Bronchopneumonia is a rare complication of infectious mononucleosis. There is no known specific for this disease.

Erythema Exudativum Multiforme (Stevens-Johnson

The Achievements of Arist

...in Skin Diseases: In a study of 26 patients with severe dermatoses, ARISTOCORT was proved to have potent anti-inflammatory and antipruritic properties, even at a dosage only ⅔ that of prednisone[1]... Striking affinity for skin and tremendous potency in controlling skin disease, including 50 cases of psoriasis, of which over 60% were reported as *markedly improved*[2]...absence of serious side effects specifically noted.[1,2,3]

...in Rheumatoid Arthritis: Impressive therapeutic effect in most cases of a group of 89 patients[4]... 6 mg. of ARISTOCORT corresponded in effect to 10 mg. of prednisone daily (in addition, gastric ulcer which developed during prednisone therapy in 2 cases disappeared during ARISTOCORT therapy).[5]

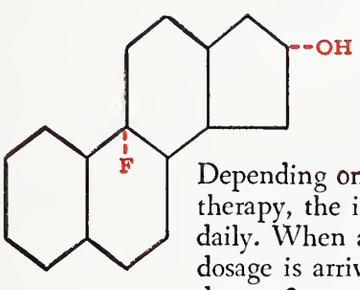
1. Rein, C. R., Fleischmajer, R., and Rosenthal, A. L.: J. A. M. A. *165*:1821, (Dec 7) 1957.
2. Shelley, W. B., and Pillsbury, D. M.: Personal Communication.
3. Sherwood, A., and Cooke, R. A.: Personal Communication.
4. Freyberg, R. H., Berntsen, C. A., and Hellman, L.: Paper presented at International Congress on Rheumatic Diseases, Toronto, June 25, 1957.
5. Hartung, E. F.: Personal Communication.
6. Schwartz, E.: Personal Communication.
7. Sherwood, A., and Cooke, R. A.: J. Allergy 28:97, 1957.
8. Hellman, L., Zumoff, B., Kretshmer, N., and Kramer, B.: Paper presented at Nephrosis Conference, Bethesda, Md., Oct. 26, 1957.
9. Ibid.: Personal Communication.
10. Barach, A. L.: Personal Communication.
11. Segal, M. S.: Personal Communication.
12. Cooke, R. A.: Personal Communication.
13. Dubois, E. L.: Personal Communication.

ocort®

Triamcinolone LEDERLE

...in Respiratory Allergies: "Good to excellent" results in 29 of 30 patients with chronic intractable bronchial asthma at an average daily dosage of only 7 mg.[6]... Average dosage of 6 mg. daily to control asthma and 2 to 6 mg. to control allergic rhinitis in a group of 42 patients, with an actual reduction of blood pressure in 12 of these.[7]

...in Other Conditions: Two failures, 4 partial remissions and 8 cases with complete disappearance of abnormal chemical findings lead to characterization of ARISTOCORT as possibly the most desirable steroid to date in treatment of the nephrotic syndrome.[8,9]... Prompt decrease in the cyanosis and dyspnea of pulmonary emphysema and fibrosis, with marked improvement in patients refractory to prednisone.[10,11,12]... Favorable response reported for 25 of 28 cases of disseminated lupus erythematosus.[13]



Depending on the acuteness and severity of the disease under therapy, the initial dosage of ARISTOCORT is usually from 8 to 20 mg. daily. When acute manifestations have subsided, maintenance dosage is arrived at gradually, usually by reducing the total daily dosage 2 mg. every 3 days until the smallest dosage has been reached which will suppress symptoms.

Comparative studies of patients changed to ARISTOCORT from prednisone indicate a dosage of ARISTOCORT lower by about ⅓ in rheumatoid arthritis, by ⅓ in allergic rhinitis and bronchial asthma, and by ⅓ to ½ in inflammatory and allergic skin diseases. With ARISTOCORT, no precautions are necessary in regard to dietary restriction of sodium or supplementation with potassium.

ARISTOCORT is available in 2 mg. scored tablets (pink), bottles of 30; and 4 mg. scored tablets (white), bottles of 30 and 100.

Lederle LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

Syndrome). Pneumonia is a common accompaniment of this disease. It appears to be due to a virus which is not affected by any known antibiotic. Steroid therapy has often proven to be helpful.

Primary Atypical Pneumonia. The status of drug therapy of Primary Atypical Pneumonia is still under question. Some observers feel that a tetracycline 0.5 gm. every six hours should be given until temperature has been normal for at least three days, principally to guard against secondary bacterial invaders. Some observers prefer to use no antibiotic therapy in the average case unless there is indication of a secondary infection.

III. Rickettsial Pneumonias

Treatment of all of the rickettsial pneumonias may be combined together. Chloramphenicol or a tetracycline appears to be equally effective. The dosage in severe cases is 1 gm. every six hours for three doses, then 0.5 gm. every six hours until the temperature is normal.

IV. Mycotic Infections

Actinomycosis. Penicillin is the drug of choice, one or two or more million units a day usually along with surgical drainage if necessary. One of tetracyclines may be just as effective. Treatment is continued for at least six weeks and should be kept up long after the lesions have disappeared to prevent a recurrence.

Nocardiasis. Sulfadiazine is the drug of choice for nocardia infections. The broad-spectrum antibiotics may be helpful. The treatment must be prolonged.

Histoplasmosis. At present there is no proven therapeutic agent for this disease, but very suggestive results are being obtained with a new antibiotic, amphotericin B. The drug has been employed in a number of cases and the incidence of serious toxic manifestations has been relatively low. It has also demonstrated definite therapeutic effect. The drug is very difficult to administer and must be given intravenously in a slow drip over a period of six hours. Approximately 1 mgm. per kilo per day is the usual daily dose and treatment is continued from 30 to 60 days. Under special circumstances the daily dose may be increased to as much as 100 mgm. per day. An oral form of the drug is available, but has not proved to be effective. Immediate febrile complications during therapy are not unusual especially if the drug is given too fast. These effects may be ameliorated by aspirin. These reactions have not interfered with the continued use of the drug.

Blastomycosis. 2-hydroxystilbamidine is the most effective agent in the treatment of blastomycosis. Standard daily dose is approximately 250 mgm. dissolved in 250 to 500 cc. of 5 per cent dextrose, and given intravenously. This is given rather slowly over a period of several hours at least. The drug should be used immediately after preparation and the solution should be protected from sunlight. Thirty to sixty days of daily dosage of 250 mgs is recommended. The drug may be repeated in case of a relapse. Facial neuropathy may occur but is much less frequent than with stilbamidine. Recently amphotericin B has appeared quite effective in treatment of Blastomycosis.

Coccidioidomycosis. Amphotericin B may be used for treatment of coccidioidal disease.

Moniliasis. Mycostatin is an effective antifungal drug for intestinal moniliasis, or it can be used locally. It has no effect on the systemic disease as it is not absorbed from the intestinal tract. In systemic moniliasis it is suggested that one of the newer antibiotics be employed, such as amphotericin B.

Cryptococcosis. Amphotericin B may be used. Its effectiveness is still under investigation.

Aspergillosis, Geotrichosis and Penicilliosis. These diseases are refractory to all known antibiotics. Amphotericin B should be tried.

Sporotrichosis. This usually responds satisfactorily to potassium iodide. 2-hydroxystilbamidine should be tried in the refractory case.

Steroid Therapy

The role of steroids in the therapy of infectious disease is a subject of tremendous controversy. When overwhelming infections cause adrenal insufficiency steroid therapy is indicated. The beneficial anti-inflammatory and "antitoxic" effect of the steroids is opposed by the adverse influence of the steroids on tissue localization of infection. However it is likely that one may accomplish the desirable and prevent the potential harmful effects of steroids by the simultaneous use of anti-microbial agents to which the infective agent is susceptible. On theoretical grounds at least it would be undesirable to use steroid therapy in infections caused by organisms resistant to anti-microbial agents. There appears to be a place for the use of steroids in overwhelming infections not responding to conventional therapy.

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D. Togus
Second District, WALDO A. CLAPP, M.D. Lewiston
Third District, RALPH P. EARLE, M.D. Vinalhaven
Fourth District, JAMES E. POULIN, M.D. Waterville
Fifth District, MARCUS A. TORREY, M.D. Ellsworth
Sixth District, RICHARD C. WADSWORTH, M.D. Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville
PEARL R. FISHER, R.N., Waterville

Across The Desk

Dependents' Medical Care Program

Medicare Will Limit Freedom of Choice

Beginning October 1, private physicians and clinics must be extra careful in checking eligibility of Medicare patients if they are interested in being compensated for services. The Pentagon and Department of Health, Education and Welfare have begun processing a directive sharply restricting medical benefits for dependents of military personnel.

Proposed Changes by the Secretary of Defense

1. Require all eligible dependents *who live with their sponsors* to clear with appropriate designated Uniformed Service authorities to obtain special authority for civilian care. (Where Uniformed Service hospital facilities are available, commanders will be required to base decisions as to whether a certificate will be issued upon the capability of the hospital as determined by the surgeon.) Eligible dependents who *do not reside with their sponsors* are not required to obtain authority other than their identification cards (DD Form 1173).

2. *Emergency medical care,* if authorized under the revised program, may be obtained from civilian sources by all eligible dependents without authority other than their identification cards. Physicians will be required to certify the emergency.

3. *Maternity care* for eligible dependents.

a. *Residing apart from their sponsors* — may continue to obtain authorized medical care from civilian sources on the basis of their identification cards (DD Form 1173).

b. *Residing with their sponsors*

(1) 2d and 3d trimester patients, if under care of a civilian physician on 1 October, 1958, will be permitted to continue their care with the civilian physician. However, if for reason of change of station, or other reasons, a change of physician is made, dependents will be required to clear with appropriate designated Uniformed Service authorities for determination of whether care will be made available in a Service facility or whether special authorization will be given for civilian care.

4. Discontinue all service not clearly specified in the Law for both those living with, and apart from, their sponsors:

a. Medical care ordinarily rendered on outpatient basis:

(1) Injuries not requiring hospitalization

(2) Termination visits (when one physician sees patient in his office and turns over to another physician for hospital care)

(3) Pre- and post-surgical tests before and after hospitalization.

(4) Neonatal visits (two well baby visits following hospitalization)

b. Nervous and mental diseases

(1) Acute emotional disorders

c. Elective surgery

5. Require commanders in areas having more than one medical service facility to establish a clearing point to assure that all Service hospitals are used to the optimum.

Health Insurance in Maine

The number of people in Maine covered by voluntary health insurance has reached a new high, the Health Insurance Council reported today. The Council estimates that over 595,000 persons in the state now are protected by some form of insurance designed to help pay hospital and doctor bills.

This figure, the Council said, is part of the continued growth of Health insurance throughout the country, which was revealed in its 12th annual survey of the extent of voluntary health insurance coverage for 1957. The number of people covered by some form of health insurance in the nation, according to a Council estimate, is now 123,000,000 or 72% of the total U. S. civilian population.

Unions Nix Chiros.

It all started at the Golden Bull eatery when the Riverside and San Bernardino chiros. adjusted resolutions to form a union. Seven charters were issued to S. California bone-bending locals.

It all ended when AFL-CIO officials ruled them ineligible.

Behind the move, reported Harry Bernstein, *L. A. Examiner* Labor Editor, was the effort to have chiropractic treatment recognized in payments of benefits from the multi-million-dollar health and welfare funds.

FDA Reports Quackery Prosecutions

The monthly report for June by the Food and Drug Administration discloses a higher than average score of seizures and prosecutions. Confiscated devices included sets of gloves and pads purportedly radioactive and effective in self-treatment of arthritis and rheumatism. A Georgia physician received a three-year prison term for selling 55,000 amphetamine tablets to an FDA agent pretending to be a supplier of road stores catering to truck drivers. Three of eleven druggists convicted of illegal sale of prescription drugs were in Washington suburbs.

$91.6 Million Surplus Property Distributed

The last report submitted to Congress by Marion B. Folsom before he left office as Secretary of Health, Education and Welfare was the periodic summary of surplus property awards. In the second calendar quarter of 1958, the Federal government distributed among the states $91,603,550 worth of real estate, supplies and equipment, conditional upon its being utilized by public and private nonprofit institutions for educational, public health and civil defense purposes.

Big Four Take A Fourth

Well over one-fourth of the April-June giveaway was divided among four states: California, $9,909,018; Texas, $6,275,619; Pennsylvania, $5,102,471, and New York, $4,420,698.

Penicillin Allergy Can Be Curtailed in Polio Shots

A California physician has advised persons with a history of penicillin allergy to ask their doctors for penicillin-free vaccine when receiving polio shots.

Dr. Murray C. Zimmerman, Whittier, California, said there is sufficient penicillin in most polio vaccines "to cause allergic reactions in exceptional patients highly sensitive to penicillin."

These vaccines have penicillin concentrations ranging from 1 to 200 units per cubic centimeter. On the other hand, he said, penicillin-free vaccines have less than 0.001 units per cubic centimeter.

These observations appear in the August 9 Journal of the American Medical Association.

In the event penicillin-free vaccine is unavailable, Dr. Zimmerman suggests an injection of penicillinase (Neutrapen) before the polio vaccination is given.

Penicillinase destroys penicillin but has no effect on any other constituent of poliomyelitis vaccine, the doctor said.

"Penicillinase eliminated all symptoms of allergic reaction in about 95 per cent of approximately 200 previously reported patients with penicillin allergy.

"Over 80 per cent of patients obtain clearing of the reaction with one injection," Dr. Zimmerman reported.

Doctor Draft Extension To Be Sought by Defense Next Session

Continued authority for selective call-up of physicians up to age 35 for military service is expected to be asked by the Defense Department when the new Congress convenes. Defense officials say they remain hopeful that armed forces requirements for doctors can be met through voluntary means. However, the Defense Department announced recently that unless it receives more intern applicants for the Berry plan, use of the doctor draft will be necessary for the first time in two years.

PHS Renews Plea for Under-40 Polio Vaccinations

With an increase in the incidence of paralytic cases of poliomyelitis, the Public Health Service on August 29 issued a new plea for persons under 40 who have not been vaccinated against the disease to get their shots as soon as possible. Acting Surgeon General John Porter-

Continued on page 352

"Historians of the future will marvel most of all at the nonresistance of those who had the most to lose."

General George Van Horn Moseley



ANSWERING QUESTIONS

Blue Shield—America's Unique Contribution To Medical Economics

In these days of instantaneous communication and over-night travel to the most remote places in the world, few nations can claim any social ideas or innovations as exclusively their own.

But the fact is that in the field of medical economics, American medicine has produced a program that is uniquely American. There is nothing comparable to Blue Shield in any other nation today.

Specifically, in no other country has the medical profession been able to develop a non-profit plan for medical care prepayment in which the participation of both patient and doctor is voluntary, there is complete freedom of choice for doctor and patient, services are paid for on a fee-for-service basis with the payments subject to medical control, there's no third party to regulate the doctor's practice, and no governmental agency has contributed one cent of direct subsidy to the program.

As a spokesman for the World Medical Association, the "international voice of organized medicine" representing 750,000 physicians in 53 nations of the "free world," said recently: "American physicians are singularly fortunate in having met their social and economic problems by voluntary action, turning back the threat of political domination."

Of course the plain fact is that although physicians have *met* their social and economic problems, they are still a long way from *solving* them. Through their own Blue Shield program, and with the help of the many commercial insurance companies that have followed the trails blazed by Blue Shield, physicians have made a strong and substantial beginning toward providing basic medical care security for all of their patients.

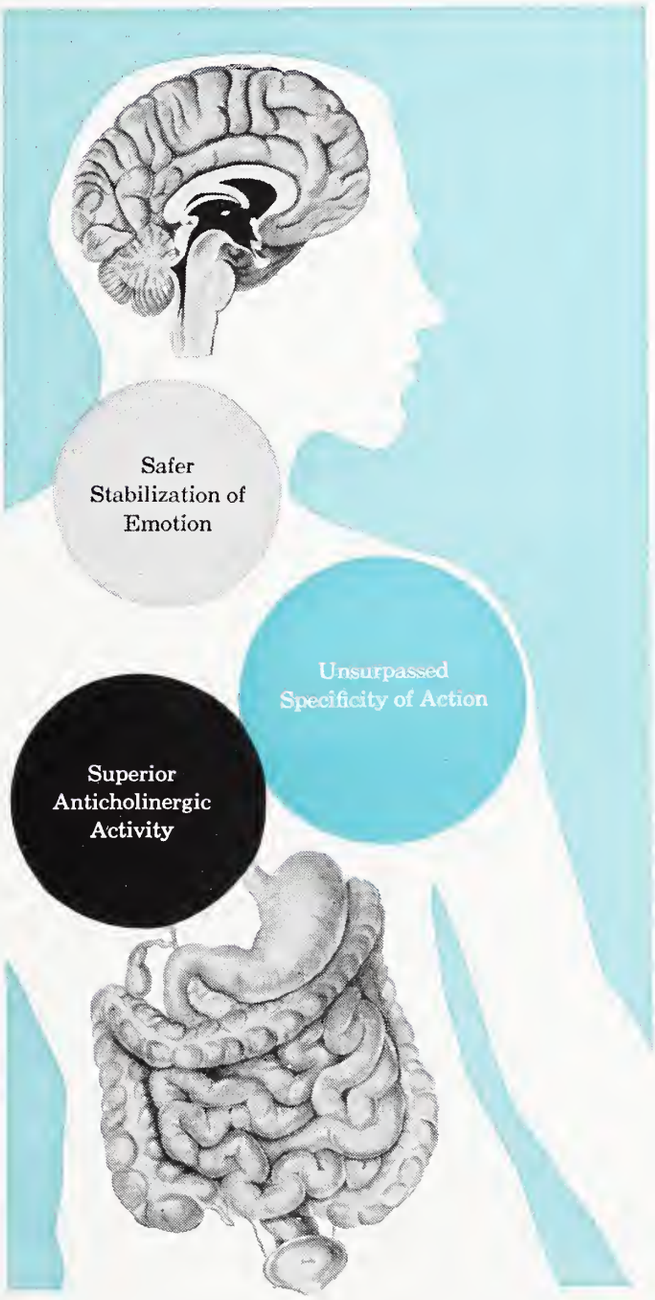
But there are big and difficult problems yet to be solved — in the care of long term and chronic illness, the aged, the rural populations, the indigent, etc.

Blue Shield offers us a unique instrument with which to tackle these problems. Whether or not it will yet suffice to save America from resorting to the state socialism and the compulsory solutions that most other countries have adopted will probably depend on the vision and energy and public spirit which every doctor brings to the support and guidance of his own Blue Shield Plan.

Controls Stress
Relieves Distress in smooth muscle spasm

new
Pro-Banthine® *with* Dartal®

– for positive relief of cholinergic spasm. – a new and safer agent for normalizing emotions.



PRO-BANTHINE WITH DARTAL offers you a new, specific and reliable control of visceral motor disorders, especially when these disorders are induced or aggravated by psychic tensions or anxiety.

Pro-Banthine has won wide clinical acceptance as the most effective drug for controlling gastrointestinal hypermotility and hypersecretion.

Dartal, a new phenothiazine congener, offers greater safety, flexibility and effectiveness in stabilizing emotional agitation.

The combination of each drug in fully effective doses in Pro-Banthine with Dartal gives a new means of approach to the medical management of functional gastrointestinal disorders mediated by the parasympathetic nervous system.

Specific Clinical Applications: Functional gastrointestinal disturbances, gastritis, pylorospasm, peptic ulcer, spastic colon (irritable bowel), biliary dyskinesia.

Dosage: One tablet three times a day.

Availability: Aqua-colored tablets containing 15 mg. of Pro-Banthine (brand of propantheline bromide) and 5 mg. of Dartal (brand of thiopropazate dihydrochloride).

G. D. SEARLE & CO., Chicago 80, Illinois.
Research in the Service of Medicine.

SEARLE

ACROSS THE DESK — *Continued from page 348*

field said that even during the current polio season, persons who have had one or two shots will get added protection from another inoculation. Latest morbidity report of PHS shows 144 cases of paralytic polio (43 of them in Michigan) during the week ending August 23, compared with 96 cases in corresponding week last year.

PHS Reports on Injuries in U. S.: Home Accidents Account for 40 Per Cent

About 25 million persons in the U. S. were hurt seriously enough in the second half of last year to require medical attention or to limit activities for at least a day. The latest report of the National Health Survey blamed home accidents for 40.3 per cent of the total; work accidents, 16.7 per cent; motor accidents, 9.8 per cent and others, including injuries from violence, 33.1 per cent. Of the total, 14.1 million were males; 14.9 million were urban residents; 7.1 million lived in rural non-farm areas and 3 million on farms. On an average, about 1,175,000 persons every day were limited because of injuries, and of these, 305,000 were in bed or in a hospital.

1958 Annual Session Golf Tournament

The following list of prizes and contributors is evidence of the support given to the Maine Medical Association by these various concerns, in addition to their participation in the Technical Exhibit. We take this opportunity to say "Thank You" to these contributors and to all other companies included in the Technical Exhibit.

Prizes	*Contributed by*
Carnation Trophy	Carnation Company
#5 Wood Golf Club	Lederle Laboratories
Maxfli Golf Balls	Eli Lilly & Company
Golf Umbrella	G. D. Searle & Co.
Travel Clock	P. J. Noyes & Co.
Bottle of Haig & Haig	Pfizer Laboratories
Golf Club Covers	Geo. C. Frye Co.
Scales	Thomas Reed Co.
Cuff Links	U. S. Vitamin Corp.
Index Files	Ciba Pharmaceutical Products
Foam Model	Milex of New York
Golf Gloves	Maine Medical Association
Golf Balls	Brewer Co.
Barometer	Schering Corp.
Cigarette Lighters	Upjohn Co.
Golf Balls	Eaton Laboratories
Flask, Golf Pin, Silver Urn	Physicians & Surgeons Supply
Golf Balls	Picker X-Ray
Golf Balls	Burroughs-Wellcome & Co.
Golf Balls	Buffington's, Inc.
Golf Balls	DoHo Chemical Corp.
Electric Clock	Abbott Laboratories

Winners

Daniel Shields, M.D.	Daniel Hanley, M.D.	Bill Gove
Francis Winchenbach, M.D.	Paul Burke, M.D.	Mrs. Ross Green
John Dougherty, M.D.	Allen Woodcock, M.D.	Mrs. Robert Allen
Frank Vinci, M.D.	George Maltby, M.D.	Mrs. Francis Winchenbach
Frederick Gregory, M.D.	George Sullivan, M.D.	Mrs. Daniel Shields
Linus Stitham, M.D.	Benjamin Zolov, M.D.	Mrs. Albert Aranson
John Bischoffberger, M.D.	Brinton Darlington, M.D.	Mrs. Linus Stitham
Ross Green, M.D.	Martyn Vickers, M.D.	Mrs. Sydney Luria
John Burke, M.D.	Arthur Snyder	Mrs. Charles Glassmire
Robert Allen, M.D.	Rocky Maffi	Mrs. William White

Necrologies

William H. Shanahan, M.D.
1886-1958

William H. Shanahan, M.D., of Portland, died June 11, 1958 at the age of 72.

Dr. Shanahan was born October 27, 1886, in Somersworth, New Hampshire, the son of Philip and Catherine Shanahan. He attended Brown University and St. Anselm's College and received his medical degree from the University of Vermont College of Medicine in 1912. He did postgraduate work at St. John's, Misericordia and St. Mary's Hospitals in New York City and at the Maine Eye and Ear Infirmary. He established his practice in Portland in 1920.

He was a member of the Maine Medical Association and the Cumberland County Medical Society.

As a young man Dr. Shanahan played professional baseball in Maine and New Hampshire. He was a member of Monsignor Houlihan Council, K of C, and the Ralph D. Caldwell Post, American Legion.

Dr. Shanahan is survived by his widow, Marie Emery Shanahan; a sister, Mrs. Philip Dooley, Hyde Park, Massachusetts; and a brother, James Shanahan of Somersworth, New Hampshire.

Elbridge G. A. Stetson, M.D.
1876-1958

Elbridge G. A. Stetson, M.D., 81, of Brunswick, died March 3, 1958.

Dr. Stetson was born in Brunswick, December 7, 1876, the son of Joseph E. and Ellen Snow Stetson. He attended local schools and received his medical degree from Bowdoin Medical School.

He was a member of the American Medical Association and an Honorary Member of the Maine Medical Association and the Cumberland County Medical Society. In 1953 he received his fifty-five year pin from the State Association.

Dr. Stetson served under Dr. Gilbert M. Elliott as assistant director of the Maine Medical Hospital train sent to Halifax, Nova Scotia in 1917 when an ammunition ship exploded. During World War I he served in the Medical Corps and earned the rank of lieutenant colonel. He was town health officer in Brunswick for many years.

Dr. Stetson was active in the Pleasant Point Gun Club; a member of Hawthorne Chapter, OES; United Lodge AF&AM; Dunlap Commandery; and the George T. Files Post, American Legion.

He is survived by his widow, Mrs. Lena Morse Stetson; two daughters, Mrs. Mark Hayes of Staten Island, New York; and Mrs. George W. Crimmins of Brunswick; a brother, Harry W. Stetson of South Portland; and five grandchildren.

John B. Thompson, M.D.
1874-1958

John B. Thompson, M.D., 84, of Bangor, died June 25, 1958 at the Eastern Maine General Hospital in that city.

Dr. Thompson was born in New York City, November 5, 1874, the son of Humphrey P. and Ann M. Thompson. He was graduated from Brunswick High School and received his medical degree from Bowdoin Medical School in 1899. He served as assistant in biology at Bowdoin from 1897 to 1898. He was an intern at the Eastern Maine General Hospital from 1899 to 1901, following which he entered the practice of medicine in Bangor. He was elected an adjunct surgeon for the hospital in 1903, became surgeon in 1910 and had been a consulting surgeon in recent years. He was also a surgical consultant at the Bangor State Hospital.

In World War I, Dr. Thompson was a captain in the U. S. Army Medical Corps and for nearly a year was on duty in France with the 38th Division. In World War II, he was examining surgeon for the Bangor Induction Board.

Dr. Thompson was an Honorary Member of the Penobscot County Medical Society and the Maine Medical Association, having received a fifty-year medal in 1949 and a fifty-five-year pin in 1955. He was a past president of the Penobscot County Society and had served as Secretary-Treasurer of the State Association. He was also a member of the American Medical Association.

He was a member of the James W. Williams Post, American Legion, the Masonic bodies, Anah Temple, Order of the Mystic Shrine and the All Souls Congregational Church.

He is survived by his widow, Mrs. Edna Thompson of Bangor; two daughters, Mrs. Danforth Hayes of Worcester, Massachusetts and Mrs. Richard E. Elliott of Bridgewater, Virginia; a son, Robert, of Prairie Village, Kansas; and nine grandchildren.

News and Notes

Oxford County Physician Honored



Roswell E. Hubbard, M.D., right, looks over the first and last baby he brought into Waterford during his 39 years as general practitioner in the area. (Jack Quinn Photo)

Roswell E. Hubbard, M.D., of Waterford, was honored by over 500 patients at a surprise testimonial reception held in the Waterford Community School on Saturday, August 9, 1958.

Dr. Hubbard, who has been a general practitioner in Waterford and surrounding towns for 39 years, is a member of the Oxford County Medical Society, the Maine Medical Association and the American Medical Association.

Physicians Licensed to Practice Medicine and Surgery in the State of Maine July 10, 1958

THROUGH EXAMINATION

Nico Capurro, M.D., 201 Woodpoint Road, Brooklyn 11, N. Y.
Rudolf Eyerer, M.D., 3319 Classen Blvd., Oklahoma City, Okla.
John Finocchiaro, M.D., 116-40 Park Lane South, Kew Gardens 18, N. Y.
Gaetano T. Fiorica, M.D., University of Saskatchewan, Saskatoon, Canada.
Albert Grish, M.D., Middletown State Hospital, Box 1453, Middletown, N. Y.
James F. Harrigan, M.D., 42 21st Avenue, Edmundston, N. B.
Michael Homa, M.D., 2212 40th Pl., S.W., Washington, D. C.
Nicholas Ionedes, M.D., 6500 W. Irving Park, Chicago, Ill.
Zbigniew Kuberczyk, M.D., 112 High Street, Hanson, Mass.
Tsung-Han Li, M.D., New England Medical Center, Boston 11, Mass.
Kathleen Margaret A. H. Millard, M.D., Windham Center Road, Windham, Me.
Shepherd Nathan, M.D., Central Islip State Hospital, Central Islip, N. Y.
Salvatore Sturchio, M.D., 178 Mt. Prospect Avenue, Newark 4, N. J.
Herbert Frank Wilshusen, M.D., 241 King Street, Portchester, N. Y.

THROUGH RECIPROCITY

Robert S. Albahary, M.D., Box 1000, Princeton, N. J.
Robert J. Bruneau, M.D., Maine Medical Center, Portland, Me.
Joseph H. Carey, M.D., 536 State Street, Portsmouth, N. H.
Thomas R. Carroll, M.D., Weld, Me.
Harold D. Cross, M.D., Box 37, Hampden Highlands, Me.
John P. Debly, M.D., 21 Hampshire Road, Portsmouth, N. H.
Francesco A. D'Alberti, M.D., 213 Montauk Avenue, Brooklyn 8, N. Y.
W. James Guthrie, M.D., St. Luke's Hospital, 113th Street & Amsterdam Avenue, New York, N. Y.
Norman Lenson, M.D., 1093 Beacon Street, Brookline, Mass.
Bohdan Masyk, M.D., Box 9, North Kingstown, R. I.
Lawrence E. McCaffrey, M.D., Bangor State Hosp., Bangor, Me.
Stephen E. Monaghan, M.D., 271 Merrian Street, Weston, Mass.
Peter H. Patterson, M.D., 1 Bay Road, South Portland, Me.
William M. Stahl, Jr., M.D., Ohehyahtah Place, Danbury, Conn.
Ronald R. Striar, M.D., 14 Adams Street, Bangor, Me.
Elliott Dean Turnbull, M.D., Maine Medical Ctr., Portland, Me.

New M.D.'s in Maine

Philip Louis Archambault, M.D., at 346 Main Street, Lewiston — Orthopedic Surgery.

Hugh P. Robinson, M.D. — formerly a fellow in Urology at the Mayo Foundation — at 29 Deering Street, Portland — Urology.

Edward C. Matthews, M.D., at 131 Chadwick Street, Portland — Pediatrics and Pediatric Cardiology.

Harvey J. Proulx, M.D., at 92 Pine Street, Lewiston — Ophthalmology and Otorhinolaryngology.

George N. Nackley, M.D., who recently completed a surgical residency at the Maine Medical Center has begun the practice of medicine and surgery in Machias. His office will be in his home at 1 School Street.

Dr. Nackley is originally from Boston. He graduated from Harvard University in 1948 and received his medical degree from Tufts Medical School in 1952. He served one year internship and five years' surgical residency at the Maine Medical Center.

Ronald R. Striar, M.D., has returned to Bangor to begin a medical practice limited to pediatrics. His office will be at 94 Essex Street.

Dr. Striar was educated at Bangor High School, the University of Maine and was graduated from the University of Vermont College of Medicine. His further training was in Baltimore, Maryland where he interned at Baltimore City Hospitals and served as chief resident on the Pediatric Service. At the same time he was an instructor in Pediatrics at Johns Hopkins Medical School.

Announcements

New England Postgraduate Assembly
November 4, 5 and 6, 1958
Statler Hilton, Boston, Massachusetts

PRACTICAL COURSES FOR PRACTICING PHYSICIANS

Hospital Clinics in Boston Hospitals — Panel Discussions — Luncheon Symposia — Clinicopathological Conferences — Lectures — Medical Films — Exhibits — Ladies' Program — Entertainment.

Open to all physicians. Registration fee: $10. For further information write: Dr. Kenneth W. Warren, *Chairman,* New England Postgraduate Assembly, 22 The Fenway, Boston 15, Massachusetts.

The Assembly is sponsored by the Massachusetts Medical Society in cooperation with the State Medical Societies and State Chapters of the American Academy of General Practice of Maine, New Hampshire, Vermont, Connecticut, Rhode Island and Massachusetts.

American Academy of General Practice
State of Maine Chapter

The 8th annual meeting of the State of Maine Chapter, American Academy of General Practice will be held on Saturday, October 11, 1958 at the Lafayette Hotel, Portland, Maine. There will be a scientific program, business meeting, and reception in the evening followed by dinner and dancing.

Department of Health and Welfare
Division of Maternal and Child Health, Including Services for Crippled Children

CLINIC SCHEDULE
Orthopedic Clinics

Portland — Maine Medical Center
9:00 a.m.: Oct. 13, Nov. 10, Dec. 8

Lewiston — Central Maine General Hospital
9:00 a.m.: Oct. 17, Nov. 21, Dec. 19

Rumford — Community Hospital
1:30 p.m.: Dec. 17

Waterville — Thayer Hospital
1:30 p.m.: Oct. 23

Rockland — Knox County Hospital
1:30 p.m.: Nov. 19 (Wednesday)

Machias — Washington County Normal School
1:30 p.m.: Oct. 8

Presque Isle — Northern Maine Sanatorium
9:00 a.m. and 12:30 p.m.: Nov. 5

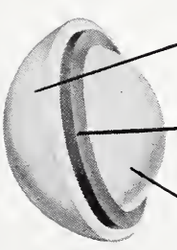
NEW *"flavor-timed" dual-action*
CORONARY VASODILATOR

Dilcoron TRADEMARK

ORAL (tablet swallowed whole)
for dependable prophylaxis

SUBLINGUAL-ORAL
for immediate and sustained relief

of **ANGINA PECTORIS**



NITROGLYCERIN—
0.4 mg. (1/150 grain)—acts quickly

CITRUS "FLAVOR-TIMER"—
signals patient when to swallow

PENTAERYTHRITOL TETRANITRATE—
15 mg. (1/4 grain)—prolongs action

For continuing prophylaxis patient swallows the entire Dilcoron tablet.

Average prophylactic dose:
1 tablet four times daily.

Therapeutic dose:
1 tablet held under the tongue until citrus flavor disappears, then swallowed.

Bottles of 100.

Winthrop LABORATORIES NEW YORK 18, N. Y.

Houlton — Aroostook General Hospital
9:00 a.m.; Nov. 4
Bangor — Eastern Maine General Hospital
1:00 p.m.: Nov. 20 (Several will be two-session)
Augusta — Augusta General Hospital
1:00 p.m.: Dec. 18

Cardiac Clinics

Portland — Maine Medical Center
9:00 a.m.: Every Friday (Holidays excepted)
Bangor — Eastern Maine General Hospital
9:00 a.m.: Oct. 10-24, Nov. 14-21, Dec. 12-19

Cleft Palate Evaluation Clinics

Portland — Maine Medical Center
10:00 a.m.: Nov. 18

Pediatric Clinics

Bangor — Eastern Maine General Hospital
1:30 p.m.: Oct. 24, Nov. 21, Dec. 19
Fort Kent — Peoples Benevolent Hospital
10:00 a.m.: Nov. 19
Waterville — Thayer Hospital
1:30 p.m.: Oct. 7, Nov. 4, Dec. 2

Clinics for Mentally Retarded Pre-School Children

Waterville — Thayer Hospital
9:00 a.m.: Oct. 1, Nov. 5, Dec. 3

Pediatric Institute For the General Practitioner

MONDAY, SEPTEMBER 22, 1958
at
CENTRAL MAINE GENERAL HOSPITAL, LEWISTON
Under the Sponsorship of
THE DIVISION OF MATERNAL AND CHILD HEALTH, MAINE DEPARTMENT OF HEALTH AND WELFARE
endorsed by the
MAINE MEDICAL ASSOCIATION

The subject will be, "Cystic Fibrosis of the Pancreas."

Woman's Hospital Division of St. Luke's Hospital

The Woman's Hospital in New York City is offering two courses in Obstetrics, limited to general practitioners. Each course is approved for 30 hours Category I credit by the American Academy of General Practice.

The courses are entitled "Ante-partum Care" and "The Conduct of Labor and Delivery." They will be given from October 16th-30th, 1958.

These are full time courses running for a week each. Students will be expected to work in the clinics, and in the second course they will be assigned to patients in labor whom they will assist at delivery. Either one or both courses may be elected.

Physicians interested in this Post-Graduate instruction will



Hickey-Freeman
CUSTOMIZED* CLOTHES

"HICKEY-FREEMAN CLOTHES
are my kind of therapy"

"I'm like a lot of doctors. I keep prescribing Hickey-Freeman clothes for myself year after year. There's something actually therapeutic in the easy, natural comfort of these fine clothes. That stitching-with-live-silk seems to give them a muscle-pattern that's responsive to my every move. And, of course, Hickey-Freeman fabrics — and cut and fit — are medicine for a man's morale. Guess that's why so many medical gatherings look like a convention of Hickey-Freeman suits!"

New fall suits from $130

A. H. BENOIT & CO.
Monument Square, Portland
Branch stores:
Westbrook—Brunswick—Lewiston—Biddeford

please address Mr. Carl P. Wright, Jr., Woman's Hospital, 141 West 109th Street, New York 25, New York and an application blank and prospectus will be forwarded.

Audio-Digest Foundation

A non-profit subsidiary of the
California Medical Association
205 North Glendale Avenue
Glendale 6, California

SUBSCRIPTION ORDER FORM

Please enter my order for Audio-Digest services as checked below:

Subscription Rates:

General Practice-Produced weekly:
( ) 1 year, 52 issues $162.00
( ) *1 year, 26 issues (every other issue)* . 88.00

Surgery — Produced semi-monthly:
( ) 1 year, 24 issues 81.50

Internal Medicine — Produced semi-monthly:
( ) 1 year, 24 issues 81.50

Obstetrics & Gynecology — Produced semi-monthly:
( ) 1 year, 24 issues 81.50

Pediatrics — Produced semi-monthly:
( ) 1 year, 24 issues 81.50

Rates subject to change without notice

Anesthesiology — (not yet in production; charter subscriptions now being accepted)
( ) 1 year, 26 (2 bonus) issues . . . 81.50

Please indicate required tape speed
( ) 3-3/4 i.p.s. ( ) 1-7/8 i.p.s.

Check for $..... enclosed.

If check accompanies order, deduct 10% from subscription rates.

Signed ..... Subscriber .....
.....
Date ..... Address .....
City ..... Zone .....
State .....

Audio-Digest Foundation services are fully protected by copyright. Authority to reproduce in whole or in part may be granted only through written permission of Audio-Digest Foundation. Tapes on subscriptions become the personal property of the subscriber.

New York Diabetes Association Incorporated

THE BRAIN AND DIABETES MELLITUS will be the subject of the Sixth All-Day Symposium sponsored by the Clinical Society of the New York Diabetes Association, Inc., to be held Friday, October 10th at Hunter College Playhouse Auditorium, New York, New York. The day's program will conclude with papers on significant new developments in the therapy of diabetes.

Dr. Lawrence E. Hinkle, Jr., Chairman of the Society, has extended a cordial invitation to physicians, medical students and other members of the profession to attend. There is no attendance fee, but *advance registration is required* for admittance. Call or write: The New York Diabetes Association, 104 East 40th Street, New York 16, New York.



Academy of Psychosomatic Medicine
Fifth Annual Meeting
Park Sheraton Hotel, New York City
October 9, 10 and 11, 1958

The theme of this meeting will be "The Psychosomatic Aspects of Internal Medicine." For further information write: Wilfred Dorfman, M.D., Chairman, Program Committee, 1921 Newkirk Avenue, Brooklyn 26, New York.

The Mary Putnam Jacobi Fellowship Committee of the Women's Medical Association of the City of New York

The Women's Medical Association of the City of New York offers the Mary Putnam Jacobi Fellowship to a graduate woman physician, either American or foreign. This Fellowship will start October 1, 1959 and will amount to $2000, $1000 being available October 1, 1959. The recipient of the Fellowship will be expected to make a report to the committee at the end of the fourth month following which the second $1000 will be awarded subject to the approval of the committee. The Fellowship is given for medical research, clinical investigation or postgraduate study in a special field of medicine. The recipient is expected to devote full time to the Fellowship but exception may be made by the committee under special circumstances.

Applications for this Fellowship may be obtained from the secretary of the committee after August 1, 1958 and must be returned before February 1, 1959 with the following information (1) curriculum vitae, (2) a statement from a physician of a recent physical examination, (3) transcripts of her college and medical school records, (4) personal letters of recommendation from two or more physicians under whom she has studied, (5) a statement by the applicant of the problems she proposes to investigate or the study she plans to undertake, (6) a statement from the person under whom she proposes to study of his or her interest in her subject, (7) recent photograph. All the above data must be at hand before the application will be considered.

Successful candidates will be notified not later than May 1, 1959.

Ada Chree Reid, M.D., Secretary, 118 Riverside Drive, New York 24, New York.

American Cancer Society
Scientific Session Program
Biltmore Hotel, New York
October 20-21, 1958

SYMPOSIUM ON CANCER OF THE COLON AND RECTUM

In addition to the presentation of papers, the speakers will participate in a panel discussion as a part of each session. All sessions are open to doctors and medical students.

Inquiries concerning this program should be addressed to: Director, Professional Education, American Cancer Society, Inc., 521 West 57th Street, New York 19, New York.

TAKE A NEW LOOK AT FOOD ALLERGENS* TAKE A LOOK AT NEW DIMETANE



DIMETANE Extentabs (12 mg. each, coated) provide antihistamine effects daylong or nightlong for 10-12 hours. Tablets (4 mg. each, scored) or pleasant-tasting Elixir (2 mg./5 cc.) may be prescribed t.i.d. or q.i.d., or as supplementary dosage to Extentabs in acute allergic situations. A. H. ROBINS CO., INC., Richmond 20, Virginia. Ethical Pharmaceuticals of Merit Since 1878.

*Sea food—source of highly potent allergens. Typical are: lobster; tuna; sturgeon roe; fish oil used to prepare leather, chamois, soaps; cuttlefish bone for polishing material and tooth powder; glues made from fish products.

Columbia University College of Physicians and Surgeons in the City of New York

A week-end Postgraduate Course in Arthritis and Related Disorders given at the Hospital For Joint Diseases, New York City, by the Staff of the Rheumatology Department and Distinguished Guest Lecturers, October 16, 17, 18, 19, 1958.

Fee for the course is $100. For further information communicate with Miss Amelia Mater, Secretary for Medical Education, Hospital For Joint Diseases, 1919 Madison Avenue, New York 35, N. Y.

Gastroenterological Convention

The 23rd Annual Convention of the American College of Gastroenterology will be held at the Jung Hotel in New Orleans, Louisiana, on October 20, 21, 22, 1958.

In addition to the many individual papers to be presented, there will be panel discussions on Gastric Carcinoma, Steroids in Gastroenterology and Functional Disturbances of the Gastrointestinal Tract. There will again be scientific as well as commercial exhibits and the sessions will be open to all physicians without charge.

On October 23, 24 and 25, immediately following the Convention, Dr. Owen H. Wangensteen of Minneapolis, Minnesota and Dr. I. Snapper of Brooklyn, New York, will again be the moderators of the Annual Course in Postgraduate Gastroenterology. The sessions will be held at the Jung Hotel and in the Auditorium of the Louisiana State University School of Medicine. Attendance at the Course will be limited to those who have registered in advance.

As a part of this year's sessions, a one-day regional meeting will be held at the University Hospital in Mexico City on October 27, 1958, and members of the College from that city will present papers.

Copies of the program and further information concerning the Postgraduate Course and Mexico Regional Meeting may be obtained by writing to: American College of Gastroenterology, 33 West 60th St., New York 23, New York.

Symposium-Panel Discussion on The Use and Abuse of Adrenal Steroids

The Council on Drugs is sponsoring an AMA Symposium-Panel Discussion on the Use and Abuse of Adrenal Steroids which will be held in the Lisner Auditorium of The George Washington University School of Medicine, 21st and H Streets, N.W., Washington, D. C. on Thursday, September 25, 1958, at 1:15 p.m. This meeting, planned by a committee of the Council, in cooperation with the University and the Medical Society of the District of Columbia, is open to any and all physicians, including graduate and undergraduate students of medicine.

American Association of Medical Assistants

The Second Annual Meeting of the American Association of Medical Assistants will take place October 31, November 1 and 2, 1958, at the Palmer House, Chicago, Illinois. All



In a recent 140-patient study[1] DIMETANE gave "more relief or was superior to other antihistamines," in 63, or 45% of a group manifesting a variety of allergic conditions. Gave good to excellent results in 87%. Was well tolerated in 92%. Only 11 patients (8%) experienced any side reactions and 5 of these could not tolerate any antihistamines.

Robins

1. Thomas, J. W.: Ann. Allergy 16:128, 1958

Dimetane®

(PARABROMDYLAMINE MALEATE)

EXTENTABS® • ELIXIR • TABLETS

Medical Assistants are cordially invited to attend. We urge each physician to call this meeting to the attention of his assistant.

Hotel reservations should be made directly with: Palmer House, Chicago, Illinois. For further information or program write: Miss Hallie Cummins, Chairman, Public Relations Committee, American Association of Medical Assistants, Caro State Hospital, Caro, Michigan.

NEW YORK UNIVERSITY

The New York University-Bellevue Medical Center Post-Graduate Medical School announces the following courses:

Department of Radiology

Diagnostic Radiology For General Practitioners

Part-time — Wednesdays 8-10 p.m.
September 24, 1958-April 29, 1959

Emphasis is placed on the diagnosis of diseases of the heart, lungs, stomach, kidneys and bones.

Given under the direction of Professor Maxwell H. Poppel. Tuition $125.

Department of Obstetrics and Gynecology

Diagnosis And Therapy of Malignant Neoplasms of The Female Genital Tract

Full-time — September 29 through October 3

Designed for those who have had considerable experience both with gynecological pathology and surgery. Students are expected to work out at least one problem in radium dosage calculation. Approved methods of diagnosing and treating cancer of the corpus uteri are demonstrated.

Given under the direction of Dr. Gray H. Twombly. Tuition $150. Maximum class 8.

Gynecological Cytology (For Specialists)

Part-time — Tuesdays, 12 to 1 p.m.; Thursdays, 9 a.m. to 12
September 30 through November 25, 1958

Consists of lectures and laboratory periods dealing with the technique of taking, preparing, and examining vaginal smears. Subjects of study include the normal vaginal cells, changes observed during the menstrual cycle, the amenorrheas, pregnancy, the menopause, and other physiological and pathological conditions, as well as diagnosis of malignancy of the genital tract.

Given under the direction of Dr. Emanuel L. Hecht. Tuition $100. Maximum class 6.

Department of Ophthalmology

Ophthalmic Plastic Surgery (For Specialists)

A part-time course of five days' duration, 2 to 5 p.m., November 17 through 21, 1958.

Covers the essentials of ophthalmic plastic surgery for the practicing ophthalmologist. Special emphasis is laid on the more common fundamental procedures peculiar to lid surgery. These include such minor surgery as tarsorrhaphy, canthoplasty, excision, and repair of lid margin lesions, as well as the usual classical operations for the correction of ptosis, ectropion, socket lesions, etc. Instruction is by lecture and demonstration. The steps in the various techniques are systematically outlined and the choice of the suitable technique for various clinical conditions is considered.

Given under the direction of Dr. Sidney A. Fox.

Tuition: $85.00.

Surgery of the Cornea

A full-time course of five days' duration, December 1 through 5, 1958.

Designed to offer thorough coverage of current concepts and practices in the field of corneal surgery. Afternoons from 2 to 5 p.m. are devoted to didactic lectures, illustrated by lantern slides and motion pictures. During the mornings, as patient material is available, opportunity is offered to observe surgical procedures in the operating room. On the last morning of the course, students perform surgical procedures on animal eyes.

Given under the direction of Dr. Ramon Castroviejo.

Tuition: $225.00.

Neuro-Ophthalmology

A part-time course of five days' duration, 9 a.m. to 12 m., January 19 through 23, 1959.

Consists of a review of the anatomy of the nerve fibers, instrumental and non-instrumental perimetry, classification and significance of field defects, types of oculomotor and optic atrophy, chiasmal syndromes, and pupillary reactions. Discussion of the types of abducenpalsy, diverse forms of gaze palsy (supranuclear palsy) nystagmus, and convergence disturbances. A short review of cerebro-ocular diseases and functional disturbances of the eye is given.

Given under the direction of Dr. Alfred Kestenbaum.

Tuition: $55.00.

For further information write to: Office of the Associate Dean, New York University Post-Graduate Medical School, 550 First Avenue, New York 16, N. Y.

WHY DON'T YOU GET YOUR PAY?

Over 500 physicians and 20 hospitals have increased their incomes by placing their accounts with us for adjustment, in a humane, honest and efficient manner. So can you — let us tell you how.

Reference: Maine Medical Association

MEDICAL AUDITING COUNSEL

297 WESTERN PROMENADE PORTLAND, MAINE

CLIP AND MAIL

Without obligation send me full details concerning your service.

Name .....

Street .....

City .....

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, October, 1958 | Number 10

The Treatment Of Bleeding Esophageal Varices

Allan D. Callow, M.D.*

The diagnosis of esophageal varices is usually not difficult and is immediately brought to mind by the patient apparently in good health who suddenly vomits a large amount of blood and in whom one can obtain a history of significant intake of alcohol or a history of hepatitis.

Introduction

Gastrointestinal hemorrhage from bleeding esophageal varices remains a grave threat to life in spite of numerous improvements in therapy. Nachlas, O'Neill and Campbell reported that hemorrhage was the precipitating or ultimate factor in 84 of 88 deaths in cirrhotic patients with bleeding esophageal varices and the mortality rate of the initial hemorrhage was 60 per cent.[1] Welch reported that 80 per cent of 50 patients, seen at the Albany Hospital, died within a year of their hemorrhage and in a later series 13 of 19 died in spite of esophageal tamponade.[2] The majority of patients with bleeding esophageal varices have Laennec's or post necrotic cirrhosis as the primary disease while only approximately 10 per cent of patients with portal hypertension and varices have them on the basis of an extra hepatic block. Thus the problem of bleeding esophageal varices extends beyond the control of hemorrhage and into the field of treatment of cirrhosis of the liver.

Diagnosis

The diagnosis of esophageal varices is usually not difficult and is immediately brought to mind by the patient apparently in good health who suddenly vomits a large amount of blood and in whom one can obtain a history of significant intake of alcohol or a history of hepatitis. Occasionally a patient known to have cirrhosis of the liver is found to have varices on routine x-ray examination. For the patient who has apparently been in good health but presents himself with a history of hematemesis two diagnostic procedures are available and we believe each can be used without danger. The first is emergency upper gastrointestinal series which, although unlikely to delineate a peptic ulcer crater in the presence of blood within the stomach, usually reveals varices if they are present. The second and generally more useful procedure is tamponade of the proximal stomach and esophagus by means of the Blakemore-Sengstaken tube. If bleeding is on the basis of varices and if the tube is properly positioned and inflated bleeding will usually stop. If bleeding continues one must assume that it is on the basis of peptic ulceration or some other cause, or else the tube is improperly positioned. An x-ray of the upper abdomen utilizing soft tissue technique is helpful in determining the position of the tube. Esophagoscopy has not been useful when varices are bleeding. Tests of liver function, providing only confirmatory evidence are not reliable, for severe bleeding

*Associate Professor of Surgery, Tufts University School of Medicine; Surgeon, New England Center Hospital.

from any cause may depress hepatic function. An elevated serum ammonia indicates the existence of connections between the portal and systemic venous systems and is presumptive evidence of esophageal varices.

Treatment

The deleterious effects of hemorrhage upon the scarred liver are profound and prolonged. What reserve hepatic function is present is rapidly depleted by blood loss. There is reduction of prothrombin and albumin content in the blood, serum bilirubin and ammonia rise and sodium and water are retained. Hepatic recovery is slow and recurrent hemorrhage, always a threat, may result in progressive liver failure and ultimately death. Welch has reported, in a series of patients studied at the Albany Hospital, that no patients who went into coma precipitated by hemorrhage survived, whereas 46 per cent of patients who did not go into coma survived.[2] The management of patients with bleeding varices, therefore, must concern itself with two problems: hemorrhage and acute liver failure.

Control of Hemorrhage

The Blakemore-Sengstaken tube if properly positioned and attended is particularly effective in controlling variceal bleeding. There is no justification for delay in its use and the tube should be inserted as soon as practical after or during the first hemorrhage. After testing each balloon and tube and after lubrication of the apparatus with mineral oil the tube is passed into the stomach and the gastric balloon inflated to contain approximately 125 cc. of air. A lightweight plastic mold which fits comfortably about the face of the patient is used to hold the tube in position rather than overhead traction devices which are cumbersome and annoying. Inasmuch as the majority of bleeding varices are within the stomach or at the esophagogastric junction we customarily inflate only the gastric balloon. In order to minimize pressure necrosis of the esophagus inflation of the esophageal balloon is omitted unless there is an indication of bleeding from varices within the esophagus.

Success with the tube varies directly with the attention one gives to it. One should not insert the tube, attach it to suction and expect that satisfactory results will follow automatically. The stomach must be thoroughly irrigated, not only to remove all liquid and clotted blood, but to facilitate prompt detection of recurrent bleeding. Gastric washings may continue to be bloody. One must assume that bleeding is from a source other than varices if the balloons remain in proper position and fully inflated or assume that the varices are so extensive as to be beyond reach of the balloons. An esophagogram is necessary to solve this problem. The generally accepted safe period of tamponade is 48 to 72 hours for the incidence of complications, respiratory and esophageal, increases markedly at this time is exceeded.

Supportive Treatment

The known intoxicating effects of ammonia in the presence of poor liver function have been well substantiated although the mechanisms whereby this occurs are still under study. The coma associated with severe hemorrhage in the cirrhotic patient is similar to the phenomenon of meat intoxication in Eck fistula dogs. Animals with a portacaval shunt are unable to tolerate a high protein diet and develop neurologic changes consisting of lethargy, coma and death. In the patient with cirrhosis, absorption of large amounts of blood with its high nitrogen content from the intestine and resulting high blood ammonia levels presents the diseased liver with more ammonia than it can detoxify and a situation similar to that of meat intoxication in Eck fistula dogs results. If this concept is true then it is of great importance to remove blood from the stomach and intestinal tract as rapidly as possible. This may be accomplished by aspiration of as much blood as possible via the gastric tube, by the administration of purgatives and enemas and finally by suppression of the urea splitting organisms within the intestinal tract by administration of broad spectrum antibiotics. Milk of magnesia in doses of 1 to 2 ounces every two to three hours or magnesium sulphate in 15 cubic centimeter doses every three hours is satisfactory. Tap water enemas are given every two to three hours and are continued so long as bloody returns are obtained from the rectum or unless there is evidence of impending shock. After purgation 2 grams of Neomycin® are administered through the Blakemore tube every four hours.

Vitamin K_1 oxide is preferred to other forms of Vitamin K. Fifty to 100 mg. of oxide are given intravenously several times during 24 hours in an effort to make it continuously available to the decompensated liver. It should not be administered slowly over several hours from a large bottle of intravenous fluid for rapid deterioration occurs after one hour. This is not true of the more stable, but probably less effective, synthetic forms of Vitamin K.

Many patients with severe cirrhosis and secondary hypersplenism have hypoprothrombinemia and thrombocytopenia. Fresh whole blood in plastic bags or siliconized bottles is greatly superior to ordinary bottled bank blood because it supplies prothrombin and platelets. It is unlikely that thrombocytopenia and hypoprothrombinemia initiate hemorrhage from varices, but certainly inadequate quantities of these substances may hinder control of hemorrhage once it has started.

In some patients the additional complication of hepatic coma will occur. The mechanisms responsible for these neurologic changes consisting of hepatic tremor, lethargy, coma, convulsions and death are unknown. Child and Donovan refer to these changes as neuronutritional deficits.[3] Hypoxic damage to the liver, blood in the gastrointestinal tract or other as yet unappreciated factors may be responsible. McDermott and his associates suggest that these phenomena are not neces-

sarily the result of identical biochemical disorders and believe that patients may fall into one of two groups; those with spontaneous encephalopathy and those with exogenous hepatic coma.[4] In the first group the elevated blood ammonia may be only one of a number of metabolic disorders whereas in the second group the hepatic coma is solely the result of ammonia intoxication. This may be the reason why certain patients respond dramatically to the administration of L-glutamic acid in the form of sodium glutamate whereas others show no response whatsoever. The patient with hepatic coma due to exogenous ammonia intoxication is likely to benefit from glutamic acid administration. Whatever the underlying cause, many patients in hepatic coma with elevated serum ammonia levels make no response to the administration of apparently adequate amounts of sodium glutamate. Certain of the refractory patients may, however, be relieved of their neurologic deficits by administration of arginine. Some patients in coma do not respond to either sodium glutamate or arginine. The serum ammonia level is measured in all patients with cirrhosis of the liver, whether in coma or not, and in all patients who are about to undergo or who have undergone surgery for relief of portal hypertension. A serum ammonia level of 100 micrograms is considered to be the upper limit of normal and when an elevation above this level is found serial two-hour postprandial determinations are done. Administration of glutamic acid and arginine are withheld in the absence of neurologic changes in spite of elevated serum ammonia levels lest the daily sodium and potassium allowance be exceeded inasmuch as glutamic acid must be administered as the sodium-potassium salt. Empirically glutamic acid is given in 25 to 50 gram doses as long as beneficial effects are noted taking care not to exceed daily requirements of sodium and potassium. If sodium glutamate is ineffective in relieving convulsions or coma arginine should be tried. The metabolism of magnesium and zinc may be abnormal as a result of severe liver disease. As a consequence of severe hemorrhage and massive blood replacement serum calcium may be depleted and circulating fibrinolysin may be dangerously elevated. These latter problems require much investigation before specific and confident recommendations can be made.

Operative Management

In some patients hemorrhage cannot be controlled by blood transfusion, sedation and tamponade. In others bleeding promptly recurs when tamponade is discontinued. Successive hemorrhages precipitate liver failure and lessen the patient's chance for survival. Surgical control of bleeding has been recommended for these individuals. Linton and Ellis[5] reported satisfactory results with a transthoracic approach for emergency ligation of bleeding varices as suggested by Crile.[6] Welch has advocated transabdominal ligation of varices after exploration for a possible coexisting peptic ulcer.[7] He

The management of patients with bleeding varices . . .must concern itself with two problems: hemorrhage and acute liver failure.

reports a mortality rate of 39 per cent for ligation in a small series of patients.[5] O'Sullivan and Payne report three immediate postoperative deaths in a group of nine patients subjected to emergency portacaval shunt.[8] Those advising ligation of bleeding varices rightfully claim that this operation is the only certain method of stopping hemorrhage. The patient is given time in which to be rehabilitated in preparation for eventual decompression of the portal system. There is evidence that this aggressive approach has resulted in some lowering of the mortality rate from hemorrhage alone. We agree that direct surgical attack upon the bleeding point is desirable and in keeping with established principles of surgery. However, we have been reluctant to accept ligation of varices as preferable for all patients to immediate creation of a shunt. Ligation of bleeding varices either through a thoracic or abdominal approach may be a surgical procedure of no less magnitude than the frequently easily accomplished portacaval shunt. Ligation through the esophagus or stomach is accompanied by an appreciable incidence of complications, particularly pulmonary atelectasis, esophageal fistula and recurrent hemorrhage. Although the operation does directly attack the bleeding point it does not lower portal hypertension. The patient who has suffered a severe hemorrhage and undergone an operative procedure occasionally equal in magnitude to a shunt operation still must undergo another surgical procedure for decompression of the portal venous system. We recognize that there is as yet insufficient experience to warrant conclusions. We do not claim that emergency portacaval shunt is preferable to transesophageal or transabdominal ligation of bleeding varices. We do believe, however, that the operation of emergency ligation possesses several disadvantages. It remains to be seen whether these disadvantages are greater than those which are associated with emergency portacaval shunts.

A discussion of the relative merits or demerits of splenorenal versus portacaval shunts is not within the scope of this paper. We have a modest experience with both operations and for the past five years have preferred portacaval anastomosis. One can fashion a larger shunt in less time with the portal vein and vena cava than with the splenic and renal veins. The larger portacaval shunt probably more effectively decompresses the portal system and, with its greater flow of blood, it is more likely to remain open than is the smaller splenorenal anastomosis. Objections to the portacaval shunt are based on suggestions that metabolic defects may develop when portal blood is completely diverted from the dis-

eased liver. We, too, have noted with regret an occasional patient who, apparently as a result of a portacaval shunt, is unable to tolerate a daily protein intake of more than 40 to 50 grams because of serious neurologic disorders. We are not as yet, however, ready to accept the argument that this neuronutritional deficit is caused by the portacaval anastomosis and believe that this controversial issue cannot be resolved until further laboratory and clinical data are available.

Urgent Portacaval Shunt

During the past twelve months nine patients were admitted to the New England Center Hospital during or immediately after a major hemorrhage from esophageal varices. Three of these patients are excluded from further discussion because of conditions which made decompression of the portal system impossible. The first patient had cirrhosis with varices and a huge hepatoma. The second patient had undergone splenectomy several years before and presented stony hard calcified portal and splenic veins. The third patient had extensive old and new thrombosis of the splenic and portal veins. Six patients remain in whom bleeding continued after admission in spite of Blakemore tube tamponade and in whom some type of procedure for control of hemorrhage was urgent. Each of these patients underwent emergency portacaval anastomosis in the presence of continued bleeding. Each patient had the criteria indicative of both serious blood loss and moderate to advanced cirrhosis of the liver. At the time of operation hemoglobin values ranged from a low of 7 grams to a high of 10 grams in the six patients. One patient presented with a serum albumin of 2.7 grams per cent and the remainder had values of 3.0 grams per cent or above. Four patients presented with ascites. Serum bilirubin was 5.3 mgs. per cent in one patient and in excess of 2.0 mgs. per cent in three others. There was one death among the six patients.† This patient was in the poorest condition of the entire group from the point of view of acute blood loss and liver damage at the time of surgery and presented the greatest technical difficulty at operation because of an extremely vascular dissection. Hemorrhage was controlled by this emergency shunt but the patient expired with severe pulmonary edema. In retrospect this patient might have been better treated by ligation of the varices assuming that the approach and dissection for the ligation operation would have been less time consuming than that for the shunt procedure. Five remaining patients have done well since operation although one had a very difficult postoperative course. In each of these patients operation was easily accomplished within three to four hours. All are alive and well with no evidence of recurrent hemorrhage after discharge during a follow-up period of from one to 12 months. It is worthy of note that in spite of the fact that some of these patients were bleeding severely on admission time was taken to obtain enough laboratory data to provide some evaluation of their hepatic function. Tamponade, while not entirely effective, did provide sufficient control of bleeding to permit study of the patient. Each patient was given fresh whole blood from plastic bags or siliconized bottles. Each patient received salt poor human albumin. All were given large doses of Vitamin K and K_1 oxide. It is recognized that each of these patients despite what appeared to be a critical situation at the time of admission still had fairly satisfactory hepatic reserve as denoted by the response to therapy or by initial laboratory determinations.

†Since preparation of this manuscript one of the five surviving patients submitted to urgent portacaval shunt has expired as a result of severe pulmonary sarcoidosis.

Summary

Increasing experience and a more aggressive surgical approach appear to have lowered the mortality of bleeding esophageal varices. Essential aspects of treatment include not only control of bleeding and restoration of blood volume, but also measures to sustain vital hepatic processes. Transthoracic or transabdominal ligation of bleeding varices appears to be one method whereby bleeding may be stopped and time obtained for preparation of the patient for a definitive operation. Although in most patients bleeding can be controlled by this method the patient must undergo still another surgical procedure and its accompanying stress upon the liver in order to obtain portal decompression. It is obvious that in a few patients portacaval anastomosis can be a difficult and time consuming operation whereas ligation of varices may be simpler. Possibly the decision as to which procedure should be used may be made properly only at the operating table. On the basis of a small group of patients we presently prefer portacaval shunt for the emergency treatment of bleeding esophageal varices.

References

1. Nachlas, M. M., O'Neill, J. E. and Campbell, A.J.A.: The Life History of Patients with Cirrhosis of the Liver and Bleeding Varices. Ann. Surg. 141:10, 1955.
2. Welch, C. S., Kiley, J. E., Reeve, T. S., Goodrich, E. O. and Welch, H. F.: Treatment of Bleeding from Portal Hypertension in Patients with Cirrhosis of the Liver. N.E.J.M. 254:493, 1956.
3. Child, C. G. and Donovan, A. J.: Current Problems in the Management of Patients with Portal Hypertension. J.A.M.A. 163:1219, 1957.
4. McDermott, W. V., Jr. and Riddell, A. G.: Treatment of "Hepatic Coma" with L-Glutamic Acid. N.E.J.M. 253:1093, 1955.
5. Linton, R. R. and Ellis, D. S.: Emergency and Definitive Treatment of Bleeding Esophageal Varices. J.A.M.A. 160: 1017, 1956.
6. Crile, G., Jr.: Transesophageal Ligation of Bleeding Esophageal Varices: Preliminary Report of 7 Cases. Arch. Surg. 61:654, 1950.
7. Welch, C. S.: Ligation of Esophageal Varices by the Transabdominal Route. N.E.J.M. 255:677, 1956.
8. Welch, C. S.: Management of Patients with Massive Hemorrhage from Esophageal Varices and Cirrhosis of the Liver. Surgery, 41:1029, 1957.
9. O'Sullivan, W. D. and Payne, M. A.: The Emergency Portacaval Shunt. Surg., Gynec. and Obst. 102:668, 1956.

The Use And Misuse Of Antibiotic Combinations

Louis Weinstein, M.D.*

It is the purpose of this paper to summarize briefly and to evaluate critically the available data regarding the use of antibiotic combinations in the treatment of infection and to indicate the areas in which they appear to be superior or inferior to single agents. . . .

The addition of one antibiotic to another began almost as soon as two such agents became available. Thus, shortly after streptomycin was prepared, it was combined with penicillin and recommended for use in (a) severe infections, (b) cases in which either drug alone produced no response, and (c) situations in which the definitive bacterial etiology was not readily apparent.

With the appearance of each new antibiotic after penicillin and streptomycin, with the development of increasing numbers of drug-resistant bacterial strains, and with the publication of reports of *in vitro* studies indicating that enhanced antibacterial activity follows combination of antimicrobial compounds, there has been a remarkable expansion in the number of different antibiotics or sulfonamides and antibiotics which are being put together in "fixed dose" forms. The rapidity with which these are appearing and being recommended for clinical use is startling. At the rate at which they are being marketed, attempts to keep their proprietary designations and composition in mind taxes even the most encyclopedic memory. In practically all instances the bases for preparing these compounds have been (a) *in vitro* studies suggesting an increase in antibacterial activity over that of single agents, and (b) test-tube evidence indicating a decrease in the rate of emergence of drug-resistance in exposed organisms.

In a recent panel discussion of antibiotic combinations, it was agreed that "*in vitro* tests which have been studied up to the present time have correlated very poorly with the clinical results."[1] It was also concluded that, in very few instances, has a mixture of antimicrobial agents been demonstrated to be superior to a single one. Since most investigators in the field of chemotherapy of infection concur in these views, it is surprising that a great deal of time, effort, and money are still being expended in the development and production of more and more "fixed dose" combinations. Remarkable and disappointing are the readiness and enthusiasm with which many physicians have accepted the claims made for such mixtures and are using them in practice because, with few exceptions, there is a striking lack of critically evaluated and carefully controlled data in support of their use in the treatment of disease.

The field of combined antibiotic therapy is confused at the moment. Physicians are being bombarded from one side by claims of superior effectiveness of combinations, and from the other by an increasing number of comments in the medical literature that they are of little or no value or are even dangerous. It is the purpose of this paper to summarize briefly and to evaluate critically the available data regarding the use of antibiotic combinations in the treatment of infection and to indicate the areas in which they appear to be superior or inferior to single agents; evidence derived from *in vitro* studies will, for the most part, not be considered since they have little or no clinical pertinence.

There are seven purposes for which the simultaneous administration of more than one antimicrobial agent has been suggested: (a) Treatment of mixed bacterial infections. (b) Reduction of the "toxic" effects of antibiotics. (c) Reduction of the required dose of a drug or duration of therapy, or both. (d) Removal of superficially located bacteria. (e) Delay in the rate of emergence of bacterial resistance. (f) Enhancement of therapeutic activity. (g) Therapy of severe infectious processes in which the specific etiology has not been established.

I. Treatment of Mixed Bacterial Infections

In some infections, two or more organisms, acting in concert, may be responsible for the disease process. Examples of this are bronchiectasis, peritonitis, and some cases of acute or chronic otitis media and urinary tract

*Infectious Disease Service of the New England Center Hospital and Pratt Diagnostic Clinic, and the Department of Medicine, Tufts University School of Medicine.

infection. In some instances, the bacteria involved, although of different species, may nevertheless be sensitive to a single antimicrobial agent, while in others they have distinctly different drug susceptibilities. This fact emphasizes the need for determination of the sensitivity of each of the components of a mixed flora to different antibiotic agents. With rare exception, such information should be available before therapy is initiated. It must be stressed that each organism should be examined for drug-sensitivity separately because testing of mixed cultures often produces misleading information. The antibiotics to be given are selected on the basis of these studies and administered in *full doses.* In some cases it may be unnecessary and even dangerous to delay initiation of treatment until definitive bacteriologic data is available; peritonitis is an outstanding example. In this disease, because it is known that the intestinal contents contain both gram-positive and negative organisms which probably act synergistically to produce infection and because delay in therapy may result in a rapidly fatal outcome, it is best to give antibiotic immediately and to administer maximal quantities of those which are known to be most effective against these types of bacteria. Many clinicians prefer to give penicillin (5 to 10 million units per day) together with streptomycin (1 to 2 gms. per day). In bronchiectasis and in chronic otitis media and urinary tract infections, therapy need not be started before the necessary bacteriologic information becomes available because these infections have usually been present for such a long time that a delay of two or three days makes little or no difference in the outcome of the disease. This principle does not apply, however, in cases in which acute exacerbation of the chronic process develops. That combinations of antibiotics do not always lead to cure of an infectious process even when the responsible organisms are sensitive to the individual drugs in the mixture is best observed in chronic urinary tract infection in which it is known that combined therapy does not improve the outlook for recovery.

II. Reduction of "Toxic" Effects of Antibiotics

It has been suggested that combining certain antibiotics allows smaller quantities of each to be administered without decreasing the desired degree of antibacterial activity and, at the same time, results in a reduction in the risk of untoward effects. This has not been proved, however, for any known mixture of antimicrobial agents. Such claims have been made particularly for mixtures of streptomycin and dihydrostreptomycin. The former damages the vestibular portion and the latter the cochlear portion of the auditory nerve. Combinations of equal quantities of the two drugs administered in a daily quantity no greater than that which would be given of either agent alone, have been reported to produce injury to either division of the eighth cranial less frequently. More recent experience has indicated, however, that deafness occurs considerably more commonly with the drug combination than with full doses of streptomycin alone.

The problem of hypersensitivity reactions to antibiotics may be considerably complicated by the use of combinations of these agents. Although there is no evidence that the incidence of such reactions to single drugs is increased by combining them with others, difficulty may arise as a result of simultaneous sensitization to all of the compounds in a mixture. When this occurs in a patient receiving an antibiotic combination it is obviously impossible to determine which one of the drugs is responsible. This makes it impossible to alter the situation except by stopping treatment. This may result in serious difficulty if the organism responsible for the infection is susceptible only to the agents included in the combination; this is not rare. This possibility is a strong argument against the use of antibiotic mixtures except in those instances where they have been proved to be therapeutically superior to single antimicrobial agents.

Superinfection, the appearance of bacteriologic and clinical evidence of a new infection during the antibiotic therapy of a primary one, is a common and potentially very dangerous complication of antibiotic treatment. The more broad the antibacterial activity of a single drug or combination of agents, the greater is the possibility that a single component of the normal microbial flora in the upper respiratory or intestinal tract will become predominant, invade, and produce disease.[2] The largest number of superinfections are observed, therefore, during the administration of "broad-spectrum" antibiotics and mixtures of these agents. This phenomenon is an important contraindication to the use of drug combinations in any situation in which they are not necessary. This is emphasized by the fact that many superinfections are due to organisms (Proteus, Staphylococcus, yeasts, fungi) which are often difficult or impossible to eradicate with the presently available chemotherapeutic agents.

It has been demonstrated that some antibiotics produce adverse metabolic effects.[3] The administration of chlortetracycline (Aureomycin®), in a daily dose of 2.5 to 3.0 gms. orally daily, has been found to result in loss of body weight, increase in urinary excretion of nitrogen, negative nitrogen balance, and elevation of non-protein nitrogen in the blood when fed to undernourished adults. Similar changes have been produced by daily doses of 2.5 to 3.0 gms. of oxytetracycline (Terramycin®) or only 1.0 gm. of chlortetracycline (Aureomycin). Increased urinary excretion of riboflavin, tryptophane, histidine, and threonine may follow the use of Aureomycin. These observations raise the possibility that, like the tetracycline compounds, other antimicrobial agents may produce deleterious metabolic effects. Although no data are available, the likelihood is probably great that interference with normal metabolic processes is intensified by the administration of two or more antibiotics at one time.

The most important problem in the field of combined chemotherapy is the use of "fixed dose" mixtures. On the basis of the presently available knowledge, it appears patently clear that these compounds have no place in the treatment of infection.

III. Reduction of Dose of Drug and/or Duration of Therapy

It has been suggested that the simultaneous administration of penicillin and streptomycin in cases of subacute bacterial endocarditis due to an organism sensitive to both of these agents permits the use of smaller doses of penicillin and allows reduction of the period of therapy from the usual four to two weeks. This therapeutic approach requires more confirmation, however, before it can be recommended for general adoption as the means of treating subacute bacterial endocarditis. Although the risk is probably small, the possibility of damage to the auditory nerve as a result of the administration of streptomycin must be considered. The use of antibiotic combinations to reduce total dose of drug and duration of therapy has also been recommended in the management of brucellosis. Whether this principle is applicable in other infections is not known. It is important to point out that caution must be employed in the application of combined therapy for these purposes since, as will be discussed below, the level of antimicrobial activity of a mixture of antibiotics is essentially unpredictable and may, in fact, be less than that which obtains when a single drug is given in full therapeutic dose. For this reason primarily, the writer still uses single agents, whenever possible, in cases of subacute bacterial endocarditis and continues treatment for a minimum of four weeks.

IV. Removal of Superficially Located Bacteria

Some investigators have recommended that antibiotic combinations be administered in the treatment of superficial infections, as of the skin for example, especially when these are due to more than one species of bacteria. On this basis, mixture of neomycin, polymixin, and bacitracin has been employed because these agents possess a low level of sensitizing capacity. Some dermatologists have pointed out, however, that there is no clinical evidence to support the theory that an ointment containing a combination of antimicrobial drugs is necessary for topical therapy. Clinical study has demonstrated that the vast majority of superficial infections respond adequately to the use of single antibiotics; this applies even to localized staphylococcal infections.

The area of superficial "infection" in which combined therapy appears to be superior to the use of single agents is the intestinal tract. It has been shown that the degree of reduction in the number of organisms in the bowel flora is greater when a combination of neomycin and polymixin are administered orally than when either is given alone. The same is true for polymixin and streptomycin.

V. Delay In Rate of Emergence of Bacterial Resistance

In vitro studies have demonstrated quite clearly that when an organism is exposed to two antibiotics at the same time, the development of resistance to each drug is appreciably delayed but not completely inhibited; this is true only when the strain is initially sensitive to both agents. The same phenomenon is observed, to a limited degree, with sulfonamide-antibiotic combinations. With these, the bacteria usually retain their susceptibility to the antibiotic but gradually become insensitive to the sulfonamide.

Clinical investigations have indicated that delay of emergence of antibiotic resistance is produced by combinations of antimicrobial drugs in some types of infection but not in all. Thus, it is now well established that the concomitant administration of two or more drugs suppresses strikingly the development of resistance in the tubercle bacillus. As a result, all cases of tuberculosis are treated at present with at least two and in some instances, miliary tuberculosis and tuberculous meningitis for example, three tuberculostatic agents simultaneously.

In one study of *Hemophilus influenzae* meningitis treated with streptomycin alone (intrathecal and intramuscular) it was found that about thirteen percent of the strains of the organism became resistant to a concentration of drug greater than 1000 micrograms within 48 to 72 hours after the start of therapy, although they had initially been highly sensitive.[4] In a large group of cases treated with streptomycin in the same manner but given in addition full doses of sulfadiazine or sulfisoxazole (Gantrisin®), not a single instance of drug-resistance was encountered.

Based principally on *in vitro* studies, it is the present practice to treat all systemic staphylococcal infections with more than one antibiotic; chloramphenicol and erythromycin constitute the most commonly used combination. The need for this type of therapy has recently been questioned, however, because evidence that *Staphlococcus aureus* becomes drug-resistant *in vivo* is difficult to substantiate. In "closed" infections, bacterial endocarditis for example, the administration of a single potent antibiotic does not lead to the appearance of insensitive staphlococci. In "open" infections such as

wounds or pneumonia, on the other hand, resistance appears to develop. It has been postulated that this is not due to a change in the organism responsible for the infection initially, but results from the introduction of a new drug-insensitive strain from the patient's environment. In accordance with this concept, some physicians are now treating staphylococcal infections with a single effective drug. It must be pointed out, however, that at the present time and until it has been definitely proved that combined chemotherapy is not necessary for staphylococcal infection, it is best to use more than one antibiotic in the treatment of this type of disease. Clinical experience suggests that when this is done the appearance of resistant strains is a relatively uncommon problem. Combinations of drugs may be effective in preventing the implantation of new strains or eradicating them if they have managed to gain a foothold. Whether this type of treatment is necessary in "closed" staphylococcal infections will be decided when sufficient critically analyzed clinical data become available. When more than one drug is administered, the infecting organism must be sensitive to both agents.

It has recently been reported that the routine use of antibiotic combinations does not prevent the appearance in a hospital of strains resistant to the drugs in the mixture.[5] In this study, patients were given full doses of novobiocin and spiromycin routinely. Despite the fact that neither agent was ever administered alone, novobiocin-resistant strains began to accumulate by the end of two months. After three months, spiromycin-resistant organisms appeared. Some of the bacteria were insensitive to both antibiotics. By the end of six months, twenty per cent and thirty per cent of the isolates were spiromycin and novobiocin-resistant respectively; these accumulated in individuals who were themselves not receiving the drugs.

VI. Enhancement of Antibacterial Activity in Treatment of Specific Infections

Enhancement of antibacterial activity and increased clinical effectiveness result from the application of antibiotic combinations in some but not all infections. In many, a lack of enhancement of or even decrease in therapeutic efficiency has been observed when combinations of drugs have been employed. It has recently been demonstrated that, in many instances, the degree of antibacterial activity of the blood of patients given an antibiotic mixture is no greater or may even be less than that which results from the use of the most potent single drug in it. In view of this evidence, it is surprising to find that combinations of antimicrobial agents have been employed most often in clinical practice for the therapy of infections in which their superiority to a single agent has not been established. An attempt will be made in this part of the paper to analyze briefly the available data in this area of chemotherapy and to point out the situations in which they have been proved to be less active than a single drug. In addition, the studies of antibacterial activity of serum following the administration of antibiotic combinations and their separate components will be summarized.

A. *Infections in Which Combined Antibiotics Are Superior to Single Agents:*

The outstanding example of the superiority of combined chemotherapy over treatment with one antibiotic is tuberculosis. When streptomycin alone is used in the management of fibrocavernous pulmonary tuberculosis, the results are not very good. The same is true when the other common tuberculostatic agents — isonicotinic acid hydrazide and para-aminobenzoic acid — are given alone. On the other hand, combinations of any two of these drugs have proved highly curative in this type of disease. Even more striking is the high level of effectiveness of combined therapy in miliary tuberculosis and in tuberculous meningitis. When streptomycin alone is used to treat meningeal infection, the survival rate is usually less than 30 per cent in patients followed for a sufficiently long period; with simultaneous administration of all three tuberculostatic agents this is increased to about 85 per cent. The prognosis of miliary tuberculosis is also markedly improved by giving combined tuberculostatic therapy.

Although, as pointed out above, combined antibiotic treatment of subacute bacterial endocarditis is not recommended by the writer as a routine procedure, some cases of this disease require this type of therapy. These are the ones in which the causative agent is a group D streptococcus or enterococcus because these organisms, while resistant to streptomycin or penicillin alone, are highly sensitive when exposed simultaneously to both drugs.

Brucellosis appears to respond best when treated with tetracycline plus streptomycin.[6] Duration of therapy is an important determining factor, however. Thus, when Aureomycin, Terramycin, or Chloromycetin® alone are used for a period of twelve days, the relapse rate is about 77 per cent; the simultaneous administration of streptomycin and Aureomycin for three weeks results in an 18 per cent incidence of relapse. That duration of treatment is of some importance is emphasized by the fact that the number of relapses is reduced to only 10 per cent when Terramycin alone is given for six weeks.

It is the writer's opinion that optimal management of influenzal and pneumococcal meningitis involves the use of combined chemotherapy; streptomycin plus a sulfonamide for the former and penicillin together with a sulfonamide for the latter. This requires the intrathecal introduction of the antibiotic. One injection of streptomycin is given into the lumbar sac in cases of influenzal and three of penicillin (at twelve hour intervals) in pneumococcal infections of the meninges. With this type of therapy, the fatality rate for the latter disease has been approximately 11 per cent over the past ten years. Sixty cases of *H. influenzae* meningitis have been treated with intrathecal and intramuscular

A valid experimental approach to the problem of the in vivo activity of antibiotic combinations versus single agents is to study the antibacterial capacity of the blood of patients receiving the drugs.

streptomycin plus sulfadiazine or sulfisoxazole without a single death or complication. It must be pointed out that these methods are not used in most clinics, however. The preferred treatment of *H. influenzae* meningitis is chloramphenicol plus sulfadiazine and for that due to the Pneumococcus is penicillin, one million units intramuscularly every two hours; the drugs are not given intrathecally.

Most investigators agree that the best therapeutic results in infections due to *K. pneumoniae* (Friedlander bacillus) follow the use of combinations of antimicrobial agents. Some give large doses of chloramphenicol and streptomycin simultaneously, while others prefer a combination of chlortetracycline (Aureomycin), oxytetracycline (Terramycin) and chloramphenicol (Chloromycetin). Most important is the rapid recognition of this type of disease and the early institution of therapy.

B. *Infections in Which Certain Combinations of Antibiotics Are Inferior to Single Agents:*

The addition of a "broad spectrum" antibiotic to penicillin in the treatment of pneumococcal meningitis has been observed to produce a therapeutic result distinctly inferior to that which follows the administration of penicillin alone. In one study, the fatality rate in patients receiving only penicillin was 21 per cent; of those given penicillin plus Aureomycin, 79 per cent died. A comparison of the treatment of *H. influenzae* meningitis with Aureomycin alone and with this agent plus streptomycin and sulfisoxazole (Gantrisin) has revealed that the elevated temperature declines at a slower rate and the number of cells in the cerebrospinal fluid remain at high levels for a longer period of time when combined therapy is used than when Aureomycin alone is administered. A deleterious effect on the course of scarlet fever has been noted when a combination of penicillin (250,000 units orally every eight hours) and Aureomycin (0.5 gm. by mouth every twelve hours) has been used. When a comparison was made with the response produced by the administration of the mixture and of each of the drugs alone, there appeared to be no difference in the clinical response. However, the speed and magnitude of return of streptococci after stopping treatment was greatest with Aureomycin alone, least with penicillin, and intermediate with the combination of these agents. These observations suggest that Aureomycin antagonizes the bactericidal effect of penicillin.

C. *Antibacterial Activity of Serum Following Administration of Single and Combined Antibiotics:*

A valid experimental approach to the problem of the *in vivo* activity of antibiotic combinations versus single agents is to study the antibacterial capacity of the blood of patients receiving the drugs. The procedure is as follows: Individuals are given antibiotic A and their serum obtained at specific intervals after medication. The same is done, after a suitable rest period, with antibiotic B and then with the combination of A and B. The patient serves as his own control and the data obtained indicate whether an additive, synergistic, depressed, or intermediate degree of antibacterial activity results from combining certain antibiotic agents.

A series of reports of studies using the technic described above has appeared within the year.[7,8,9,10,11,12] These are of the greatest clinical importance because they have dealt with "fixed dose" combinations, the form in which commercially prepared antibiotic mixtures are available to the practicing physician. The following results have been obtained: Combinations of penicillin and oleandomycin, of penicillin V and tetracycline, and of erythromycin or spiromycin or oleandomycin with tetracycline have all yielded degrees of antibacterial activity intermediate to those which developed with the administration of the component single drugs. When penicillin was given together with chloramphenicol (Chloromycetin) no decrease or increase in bacterial inhibition was noted. Striking is the unpredictability of the antimicrobial effect. This feature alone makes it difficult to make any generalizations concerning "fixed dose" antibiotic combinations except that, as a rule, they are not as good as the best single agent which they contain.

In addition to their decreased antibacterial effectiveness, "fixed dose" combinations of antibiotics have another serious drawback. They do not allow the physician to choose the dose of agent which may be most desirable. Thus, in order to give an adequate quantity of one of the drugs in a mixture he may have to administer a potentially dangerous excess of the other. For example, if one desires to give a large dose of penicillin and chooses to do this by the use of a "fixed dose" penicillin-streptomycin combination, he will be giving an excessive quantity of streptomycin and increasing the risk of producing damage to the auditory nerve; this is especially serious if the mixture contains dihydrostreptomycin because large quantities of this drug produce total nerve deafness in some individuals.

The present views concerning "fixed dose" antibiotic combinations have been best expressed by Finland.[9] "Combinations encourage the use of inadequate treatment, since there is an inevitable tendency to use the same total dose of the combination as of the single agent, and this does not provide the expected effective dose of either, particularly of the inferior drug. They provide a false sense of security as offering a wider coverage or broad spectrum of activity when in fact

Under no circumstances must chemotherapy be initiated until all of the necessary bacteriologic investigations have been started — cultures, blood or any other kind, take only a few minutes and cause no significant delay in starting treatment.

they provide a narrower effective coverage by substituting less active agents and smaller amounts of individual agents than if antibiotics were chosen individually each for its own purpose and given in the proper dose for that purpose. They reduce the therapeutic effectiveness that might be expected from proper dosage of individual agents or from the proper selection of combinations of agents according to specific requirements, particularly when care is taken to choose only agents that may be expected to be the most active against the causative organism."

VII. Therapy of Severe Infections in Which Specific Etiology is Unknown

The commonest use of antibiotic combinations is for the treatment of infections the etiology of which is not immediately apparent. The physician with a patient whom he suspects of having an infection often decides that chemotherapy is necessary. Because the exact cause cannot be immediately determined, a combination of agents is given in the hope that this will "cover" the situation — "fixed dose" mixtures are very often used for this purpose. In not a small number of cases, the infectious process is due to some virus and the application of any antimicrobial agent is not indicated.

In some instances, the administration of antibiotic combinations results in a broadening of antibacterial activity. Recent unpublished observations indicate that such an effect can indeed be produced by the use of two drugs. This has been proved for combinations of penicillin and streptomycin and of erythromycin and Gantrisin. It must be emphasized, however, that this phenomenon has followed the use of *full therapeutic doses* of each drug. The data which have been obtained do not apply to "fixed dose" preparations because these have not been studied. If "full dose" combinations are to be given in the absence of a specific bacteriologic diagnosis, the physician must decide, on the basis of the clinical features of the disease, a detailed history, and laboratory investigations including examination of stained preparations if possible, not only that a patient has a bacterial infection but also the type of organism which is most likely to be involved. *Under no circumstances must chemotherapy be initiated until all of the necessary bacteriologic investigations have been started* — cultures, blood or any other kind, take only a few minutes and cause no significant delay in starting treatment.

It has been the writer's practice to employ a regimen of aqueous penicillin plus streptomycin *in full doses,* in instances in which the clinical features of a disease are highly suggestive of a bacterial infection. When the possibility of staphylococcal invasion is suspected, full therapeutic quantities of erythromycin plus chloramphenicol are given. In the management of purulent meningitis in which the bacteriologic etiology is obscure, every effort is made to arrive at a presumptive diagnosis by considering the age of the patient, the nature of the prodromal manifestations, the character of the onset of the illness, and the focus from which the meningeal infection arose. With such information, it is very frequently possible to arrive at an adequate etiologic diagnosis, to initiate treatment with no more than two antibiotics simultaneously, and to avoid the administration of three or four antibiotics at one time, a commonly used but deplorable chemotherapeutic maneuver. It must be stressed that the initiation of an antibiotic program should not commit the physician to its continuance if specific data indicating the necessity of a change become available. If bacteriologic studies and sensitivity tests indicate that some drug other than those being used is more effective, this should be given promptly, especially if the clinical response has not been optional. Every effort should be made to treat patients with single antimicrobial agents in maximal therapeutic doses. No one has yet devised a combination of antibiotics, regardless of the number of agents included, that will cure all infections: there probably will never be such a panacea.

Summary and Comments

There is no question that in certain infections the benefits derived from the use of antibiotic combinations are greater than those which follow the administration of single antimicrobial agents. It must be stressed, however, that this is true only when the organism responsible for a disease is sensitive to each of the drugs in the mixture and when each of the antibiotics is given in full dose. Combinations are probably also of value in the therapy of some mixed bacterial infections. They delay the emergence of drug-resistance in exposed bacteria *in vitro;* there is some evidence that this also occurs *in vivo* in specific situations. The necessity of combined chemotherapy in systemic staphylococcal infections is, at the moment, an unsettled point. There is little or no evidence to support the contention that mixing of antibiotics results in a reduction in the risk of development of toxic effects. As a matter of fact, if the whole range of untoward reactions to antimicrobial agents is considered, combinations of drugs appear to be more dangerous than single agents. Although there is some evidence that the simultaneous administration

of two antibacterial compounds may allow a decrease of the total dose of an antibiotic and shortening of the period of therapy, the writer is presently not in favor of such management. In subacute bacterial endocarditis for example, he prefers to give a single antibiotic, bactericidal in activity if possible, in maximum dose for a minimum period of four weeks. The removal of superficially located bacteria, particularly those which constitute the intestinal flora, is enhanced by the administration of more than one antibiotic at a time. There is no denying the occasional necessity for administering combinations of antibiotic agents to patients suspected of having bacterial infections the exact etiology of which is not immediately apparent. It must be stressed, however, that the physician should select the drugs (preferably not more than two) which on the basis of the clinical picture appear to offer the greatest possibility of yielding the desired "broad" effect, and should not administer them until all of the necessary bacteriologic studies have been carried out.

The most important problem in the field of combined chemotherapy is the use of "fixed dose" mixtures. On the basis of the presently available knowledge, it appears patently clear that these compounds have no place in the treatment of infection. The attitude which physicians should adopt toward these preparations has been suggested in an editorial recently written by a group of investigators and teachers in the field of infections disease.[13] "Considerable caution is warranted in accepting the trend to fixed antibiotic combinations as inevitable or in lending support to a trend that may not be desirable. We would be remiss in our duties as physicians, teachers, and investigators were we to encourage, adopt, and recommend the use of new agents that we cannot consider to be as good as, or no better than those previously shown to be good even if they are legally certified. It is particularly incumbent on us to be very circumspect about the use of drugs of any sort in fixed combinations that do not offer the physician discretion as to choice of components or of the ratios in which they are used. The presence in any combination of a new or unproved component or of a substance that may be inferior to others that might well be used instead, should make us even more cautious. They should be recommended and adopted, if at all, only after adequate, carefully controlled, and critically evaluated study shows them definitely to be useful and "superior." Another editorial writer, in discussing "fixed dose" antibiotic combinations, has expressed the opinion that: "The encouragement of the so-called 'newer era of antibiotic combinations' and the manner in which it is being exploited represent a major backward step in the management of infections."[14]

References

1. Dowling, H. F.: In "Theory and Use of Antibiotic Combinations." Part 1: Laboratory Aspects. Postgrad, Med. October, 421-428, 1957.
2. Weinstein, L., Goldfield, M., and Chang, T. W.: Infections Occuring During Chemotherapy. A Study of Their Frequency, Type and Predisposing Factors, New Eng. Jour. Med., *251,* 247-255, 1954.
3. Gabuzda, G. J., Gocke, T. M., Jackson, G. G., Grigsby, M. E., Love, B. D. Jr., and Finland, M.: Some Effects of Antibiotics on Nutrition in Man, Arch. Int. Med., *101,* 476-513, 1958.
4. Weinstein, L., Chang, T. W., Hudson, J. B. and Hartl, W.: The Concurrent Use of Sulfonamides and Antibiotics in the Treatment of Infections, Ann. New York Acad. Sci. *69,* 408-416, 1957.
5. Lepper, M. H.: Resistance to Antibiotic Combinations: Laboratory and Clinical Studies, Postgrad. Med., October, 425-426, 1957.
6. Killough, J. H.: Combination Antibiotic Therapy in Brucellosis, Postgrad. Med., November, 527, 1957.
7. Jones, W. F. Jr., and Finland, M.: Antibiotic Combinations. Antistreptococcal and Antistaphylococcal Activity of Plasma of Normal Subjects after Oral Doses of Penicillin, Oleandomycin and Combinations of these Agents, New Eng. Jour. Med., *256,* 115-119, 1957.
8. Jones, W. F. Jr., and Finland, M.: Antibiotic Combinations. Antibacterial Action of Plasma of Normal Subjects after Oral Doses of Penicillin V, Tetracycline, Hydrochloride and a Combination of Both, New Eng. Jour. Med., *256,* 869-875, 1957.
9. Jones, W. F. Jr., and Finland, M.: Antibiotic Combinations. Tetracycline, Erythromycin, Oleandomycin and Spiromycin and Combinations of Tetracycline with Each of the Other Three Agents — Comparisons of Activity in Vitro and Antibacterial Action of Blood After Oral Administration, New Eng. Jour. Med., *257,* 481-491, 536-547, 1957.
10. Jones, W. F. Jr., and Finland, M.: Antibiotic Combinations. Antistreptococcal and Antistaphylococcal Activity of Plasma of Normal Subjects after Ingestion of Erythromycin or Chloramphenicol or Both, New Eng. Jour. Med., *257,* 744-748, 1957.
11. Jones, W. F. Jr., and Finland, M.: Antibiotic Combinations. Antibacterial Action of Plasma after Ingestion of Novobiocin or Penicillin G or Both, New Eng. Jour. Med. *257,* 1268-1274, 1957.
12. Finland, M., Pryles, C. V., and Jones, W. F. Jr.: Antibiotic Combinations. Antibacterial Action of Plasma of Human Subjects after Ingestion of Penicillin V or Chloramphenicol or Both, New Eng. Jour. Med., *258,* 817-824, 1958.
13. Editorial, The New Antibiotic Era: For Better or for Worse?, Antibiotic Med. and Chemotherapy, *6,* 17-21, 1957.
14. Editorial, Erythromycin, Oleandomycin and Spiromycin — And Their Combinations with Tetracycline. New Eng. Jour. Med., *257,* 525-526, 1957.

The Management Of Chronic Renal Insufficiency

RICHARD M. HAYS, M.D.*†

A number of disease states, notably hypertension, chronic pyelonephritis and chronic glomerulonephritis, can reduce renal function in an irreversible fashion. Patients who must carry on under such circumstances may be said to have chronic renal insufficiency.

The course of chronic renal insufficiency is highly variable; some patients may pursue a fulminating course, others may remain relatively symptom-free for years with an almost unbelievably small mass of functioning renal tissue.

When the physician finds evidence of renal disease in any patient, one of the first points to be settled is whether or not there is a readily reversible component. Urinary tract obstruction, treatable infection, congestive failure, hypercalcemia, and a number of other remediable conditions must be looked for, and corrected if found. The importance of considering such reversible causes of renal insufficiency cannot be over-emphasized, and has been reviewed elsewhere.[1,2]

Once the physician has satisfied himself that there is no reversible component, his problem becomes one of the long-term management of the patient. This, in our present state of knowledge, must often be a matter of watching the patient develop progressive renal deterioration. However, it is also unhappily true that patients may die prematurely because of unsuspected complications during the course of their disease, which could have been corrected if recognized.

It is the purpose of this paper to present a brief summary, based partly on our experiences and partly on the experiences of others, of the common complications of chronic renal insufficiency, and our current philosophy regarding their treatment. Such a summary may allow the physician to anticipate the difficulties his patient may encounter.

I. ANEMIA

Anemia is commonly seen with chronic renal insufficiency. It is generally felt to be due to bone marrow depression,[3] although hemolysis can occasionally play a part.[3,4] We have noted, as have others,[5] a rough correlation between the extent of renal insufficiency (as evidenced by the serum creatinine) and the hemoglobin. (Figure 1). It is evident, however, that there can be considerable variation in the severity of the anemia at any given creatinine level, especially early in the course of renal disease. Other causes of anemia, notably bleeding into the gastrointestinal tract, should be ruled out, especially when the degree of anemia seems out of proportion to the extent of renal disease.

It has been our impression that most patients are able to carry on reasonably well with hemoglobins of 8 to 10 grams. They may complain of moderate dyspnea on exertion, but little else that can be attributed to their anemia. Further, there is no evidence that renal function is decreased by such anemia. For these reasons, we do not feel that periodic transfusions are warranted in this group. The benefit of transfusions is short-lived; within a few weeks the hemoglobin drops to its original level. Many patients experience no real symptomatic improvement, and the expense and potential hazards of multiple transfusions would seem to outweigh any slight temporary improvement.

There are, of course, some important exceptions to this rule. Where the anemia is due to blood loss, drugs, sudden hemolysis, or other extrarenal causes, blood must often be given. Second, when symptoms of congestive failure or angina become a real problem to the anemic patient, packed cells may be of considerable help. Third, when the hemoglobin drops to 6 grams or less, the patient becomes highly vulnerable to infection, congestive failure, myocardial ischemia, etc., and should be given blood.

Unless true iron deficiency exists, iron does not appear to influence the anemia of renal insufficiency. The same may be said of vitamin B_{12}. Cobalt, on the other hand, has been reported to increase the hemoglobin, at times strikingly.[6] There are side effects of the drug, however, notably nausea, vomiting and eighth nerve damage[6,7] that have prevented its wider use. If cobalt is used, it must be administered continuously, since the hemoglobin returns to its previous level when medication is discontinued.

II. INFECTION

No matter what the primary nature of their renal disease, patients may develop pyelonephritis as a second-

*Medical Service, New England Center Hospital, and the Department of Medicine, Tufts University School of Medicine.

†The author's experimental work referred to in this paper was carried out during the tenure of a fellowship (HF 6101-C) from the National Heart Institute, United States Public Health Service.

ary complication; indeed, there is some evidence to suggest that any structural abnormality predisposes the kidney to infection.[8] For this reason, we have adopted the policy of routinely performing colony counts[9] on clean, non-catheterized urine specimens from out-patients. It is not unusual to find evidence of active urinary tract infection appearing for the first time in patients with long-standing chronic glomerulonephritis or other renal disease of non-infectious origin. Often, the patient may be asymptomatic, and the colony count and microscopic urinalysis may provide the only evidence for infection.

Because renal function is already compromised, superimposed infection represents a most serious threat to these patients. Vigorous and sometimes prolonged treatment is called for. The choice of antibiotic is, of course, a matter of judgment, and depends in part on sensitivity studies of the organism, the tolerance of the patient to the antibiotic employed, and the emergence of resistant strains. If streptomycin is to be employed, it must be kept in mind that toxic levels will be reached quickly when glomerular filtration rate is significantly reduced; a total dosage of two grams appears to be sufficient to attain adequate circulating levels of the drug for a long period of time. The duration of treatment is again determined by the circumstances of the individual case; however, treatment should be continued for at least a week to ten days, even if a negative culture is obtained shortly after treatment is started. Occasionally, it has been necessary to continue treatment for four to six weeks; shorter periods may prove to be inadequate. It is most desirable to obtain two to three negative cultures before treatment is discontinued.

Despite the most intensive efforts, treatment of patients in this group frequently fails to eradicate the infecting organism. This is probably due in part to the failure of adequate amounts of antibiotic to reach pathogens deep in scar tissue. If further attempts at definitive treatment seem unwarranted, a urinary antiseptic such as Mandelamine® or methenamine may be employed. Here, the objective is simply to suppress the growth of pathogens in the hope of reducing their adverse effect on renal function.

Probably the most important contribution the physician can presently make to the problem of urinary tract infection is to scrupulously avoid catheterizing patients, especially those who already have renal disease, unless this is unavoidable. There is little question that catheterization introduces pathogens into the bladder, and that pyelonephritis may result.[10] Reliable cultures can be obtained without catheterization by the technique of colony counting,[9] done on clean voided specimens. More extensive manipulation of the genito-urinary tract, such as cystoscopy and retrograde pyelography, should not be entered into without specific indications, since there is a definite risk of infection following such procedures. In most instances where renal function has not deteriorated seriously, an intravenous pyelogram will give as much information about the upper genito-urinary tract as a retrograde pyelogram.

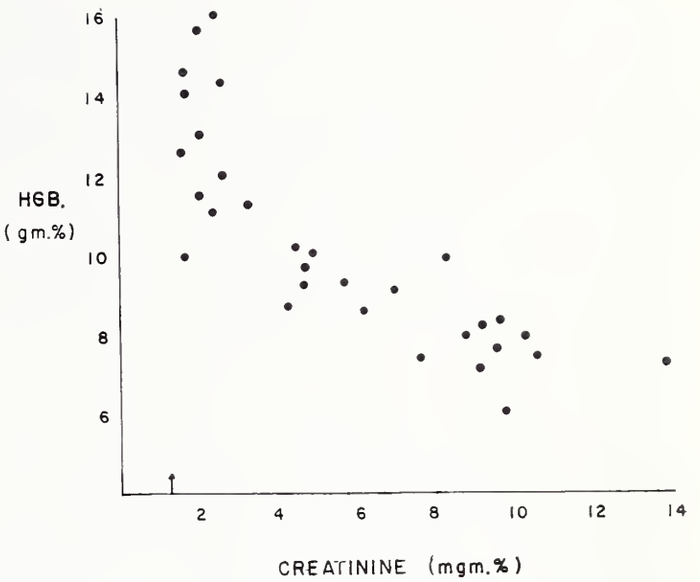


FIG. 1. The relation of serum creatinine to hemoglobin in 31 adult patients with chronic renal insufficiency. (A serum creatinine of 1.2 mg. per cent is taken as the upper limit of normal.)

III. HYPERTENSION

Hypertension commonly develops as renal insufficiency increases. We believe that if the diastolic pressure is 100 mmHg or over, it is desirable to restore the blood pressure to normal or near normal levels whenever possible, since hypertension *per se* can accelerate renal damage, and represents an additional threat to the patient's cardiovascular system.

A variety of drugs have been employed in the therapy of renal hypertension. Reserpine®, although one of the less powerful agents, is one of the least likely to affect renal function adversely. It may be useful alone, or in combination with other drugs. Hydralazine (Apresoline®) possesses one theoretical advantage, in that it increases renal blood flow. The combination of Reserpine and Apresoline has been used extensively in our clinic, with reasonable success in instances where hypertension is not marked. It is important to start patients on relatively small doses of Apresoline, 25 to 50 mg. per day, and increase the dose progressively until effective levels are reached. If adequate control of hypertension is not produced by 400 to 600 mg. per day, little additional benefit is derived by increasing the dose. There are numerous untoward effects of hydralazine, including headache, nausea and vomiting, and (in high dosage) arthralgias and fever. Myocardial ischemia may occur and the drug should be used with caution in patients with a history of coronary disease.

Chlorothiazide (Diuril®) may produce marked hypokalemia if it is employed continuously, even when potassium supplements are given. For this reason, it

is advisable to use the drug on an intermittent basis, and a schedule of four days on the drug and three days off, with potassium supplements, appears to be a reasonable program. Even on this regime, the serum potassium should be followed. The complaint of weakness should suggest hypokalemia to the physician.

Ganglionic blocking agents, such as hexamethonium, decrease renal plasma flow and glomerular filtration rate, and should probably not be used unless hypertension is severe and more conservative therapy proves inadequate.

IV. Acidosis

Metabolic acidosis is a common feature of advanced renal insufficiency; it is unusual to see it when the BUN is below 70 to 80 mg. per cent. Acidosis is a manifestation of renal tubular failure. It develops when the tubules become unable to secrete a sufficient amount of acid (in the form of ammonium and titratable acid) to offset the daily accumulation of acid derived from catabolism of the diet and tissue breakdown. In addition to this defect there is a second type of tubular insufficiency which we have observed in a few patients with chronic glomerulonephritis or pyelonephritis:[11] namely, an inability to reabsorb bicarbonate efficiently, and a consequent loss of large amounts of bicarbonate in the urine. Such a loss of body buffer accelerates the development of acidosis.

Acidosis probably develops slowly in most instances, over a period of weeks or months, and it may not be recognized until it is quite advanced. The patient may at first appear lethargic, then experience nausea and vomiting, and finally be brought to the hospital in stupor or coma. Studies then may reveal a plasma carbon dioxide content of 5 mEq/1 or less. To guard against this possibility, estimates of the carbon dioxide content or capacity should be carried out from time to time on all patients with advanced renal insufficiency.

The treatment of acidosis is simple in principle: enough bicarbonate must be supplied daily to provide the patient with a reasonable margin of buffer. If the acidosis is mild, with the carbon dioxide content in the 19 to 22 mEq/1 range, no bicarbonate need be given; the patient should be followed closely, however. If more marked acidosis exists, daily administration of from 2 to 6 grams of sodium bicarbonate in divided doses should suffice. It is not necessary, and indeed may be harmful, to attempt to raise the patient's plasma bicarbonate to normal levels (i.e., 24 to 28 mEq/1). Nausea and vomiting, paresthesias or frank tetany, and, rarely, convulsions may occur when large amounts of bicarbonate are administered to patients with renal insufficiency. One should attempt, therefore, to maintain carbon dioxide levels of 17 to 20 mEq/1. If sodium bicarbonate tends to cause nausea, sodium citrate in doses of from 4 to 10 grams per day may be substituted. If congestive heart failure is also a problem, the dose of sodium bicarbonate should be reduced to the minimum amount required to prevent serious acidosis.

V. Salt-wasting

As hypertension and congestive failure become more severe, patients with renal insufficiency may be placed on a low salt diet. Occasionally, after a brief period, the physician may note that the patient is not doing well. He may become weak, restless and nauseated. There may be evidence of increasing impairment of renal function. Hypotension may develop. Finally it is discovered that the patient is hyponatremic, or severely dehydrated. Saline is administered, and the symptoms rapidly disappear.

Many patients with renal insufficiency have a latent tendency to lose salt in their urine. This is usually of no consequence, since the patient's normal salt intake is enough to cover his urinary loss, unless his renal deficit is extraordinarily severe. However, when such a patient is placed on a low salt diet, his intake of salt becomes inadequate to keep up with his renal salt wasting, and he may rapidly get into difficulty. This type of "salt-losing nephritis," although not as dramatic as the classical cases reported,[12] may nevertheless have serious consequences if overlooked. Any patient with renal disease who is placed on a low salt diet should be followed closely, and his ability to conserve sodium evaluated. Patients placed on a low salt diet should reduce their sodium excretion to slightly below the level of their intake in two to four days. Patients with renal disease may take a somewhat longer period. A patient on a 500 mg. sodium intake, for example, should excrete about 16 to 18 mEq/day if he is conserving sodium properly. A random urine specimen will probably show 8 to 10 mEq/1 of sodium, assuming a urinary output of 2 liters/day. If a random urine specimen shows 30 to 40 mEq of sodium per liter, the patient is either wasting salt or is not adhering to his low-salt diet.

It should be kept in mind that hyponatremia may not be the earliest manifestation of salt-wasting if salt and water are being lost isotonically. Dehydration and its attendant symptoms may be the first hint that salt-wasting is taking place. When such a situation exists, salt intake must, of course, be liberalized, and the patient followed until it is obvious that he is in sodium balance.

VI. Calcium metabolism

The changes in calcium metabolism that take place in chronic renal insufficiency are complex, and by no means completely understood. Among the factors that influence calcium metabolism are changes in gastrointestinal reabsorption of calcium and phosphorus, the extent of the parathyroid response, the degree of phosphate retention with its effect on calcium level, the presence or absence of acidosis, and, in all probability, a host of other changes, many of which are still unrecognized.

It is not surprising, then, that there can be considerable variation in the handling of calcium among uremic patients. Serum calcium may be normal, or markedly depressed in patients with comparable degrees or renal damage. Recent evidence[13] suggests that even when

total calcium is depressed, the amount of ionized calcium in plasma (physiologically the most significant fraction) may remain at virtually normal levels.

A variety of changes may be seen in the skeletons of patients with renal insufficiency.[14] If there has been considerable secondary hyperparathyroidism, osteitis fibrosa may be the predominant lesion, with changes indistinguishable from those of primary hyperparathyroidism. There may be lesions resembling severe osteomalacia, occasionally extensive enough to elicit the complaint of bone pain. Osteosclerosis, with marked increase in bone density seen radiologically, may be encountered as well. It is not unusual to find two or more varieties of skeletal abnormality coexisting in the same patient.

In view of the complexity of the changes in calcium metabolism, it would appear unwise to administer calcium, with or without vitamin D, on a routine basis to all patients with renal insufficiency. This may be a relatively harmless precedure in most patients, but in others, can be most harmful, and further compromise renal function. This would be especially true in situations where administered calcium is not completely laid down in bone but is deposited in soft tissues, including the kidneys.[14]

It would seem worthwhile to restrict calcium and vitamin D therapy to those few situations in which real benefit can be expected. Hence, if there is osteomalacia with bone pain, careful administration of vitamin D preparations with the patient under close observation may prove to be of real benefit. Second, hypocalcemia may occasionally become so marked in a patient with advanced renal insufficiency that calcium and vitamin D therapy appear indicated. By and large, however, routine administration of calcium and vitamin D should be avoided.

VII. Diet and fluid intake

It has been suggested[15] that a low protein intake might be of benefit to patients with chronic renal insufficiency by sparing their kidneys the necessity of dealing with high levels of protein break-down products. To this end, diets low in protein and high in fat and carbohydrate have been designed. This type of program may possess some theoretical advantages, but it has the decided disadvantage of making the diet less palatable to many patients whose appetites at best may be poor. The importance of good nutrition, even with a normal protein intake, would appear to outweigh what other benefit may be derived from a low protein intake. If, on the other hand, certain patients have no difficulty in adhering to a diet containing 0.5 gram or less of protein per kilogram per day, and their caloric intake is satisfactory, such a regimen may be attempted.

The ability to conserve water by elaborating a concentrated urine is lost early in the course of chronic renal insufficiency. It is of prime importance, therefore, that patients maintain an adequate fluid intake at all times to avoid dehydration. Usually the patient may be guided in this respect by his own thirst mechanism. When further fluid intake seems desirable in patients who are not on low salt diets, the administration of salty foods and drinks has been suggested.[1] This stimulates thirst, and assures an adequate salt intake.

Patients with renal insufficiency often have difficulty ridding themselves of a water load; frank water intoxication may develop if fluid intake is excessive. For this reason tests involving water loading, such as the PSP excretion test, should be carried out with extreme caution.

Summary

The management of chronic renal insufficiency is largely a matter of protecting the patient from circumstances which further compromise renal function. Infection, uncontrolled hypertension or acidosis, salt wasting and dehydration are complications which can often be avoided or corrected if the physician anticipates them and deals with them effectively.

References

1. Epstein, F. H. The treatment of reversible uremia. Yale J. Biol. & Med. 27: 53-69, 1954.
2. Strauss, M. B., and Raisz, L. G. *Clinical Management of Renal Failure.* (Springfield, Illinois. Charles C. Thomas. 1956.) pp. 63-67.
3. Loge, J. P., Lange, R. D., and Moore, C. V. Characterization of the anemia of chronic renal insufficiency. Am. J. Med. 24: 4-18, 1958.
4. Emerson, C. P., and Burrows, B. A. The mechanism of anemia and its influence on renal function in chronic uremia. J. Clin. Invest. 28: 779, 1949.
5. Callen, I. R., and Limarzi, L. R. Blood and bone marrow studies in renal disease. Am. J. Clin. Path. 20: 3-23, 1950.
6. Gardner, F. H. The use of cobaltous chloride in the anemia associated with chronic renal disease. J. Lab. Clin. Med. 41: 56-64, 1953.
7. Schleisner, P. Cobalt in anemia. Acta Med. Scandinavia. 154: 177-185, 1956.
8. Brande, A. I., Shapiro, A. P. and Siemienski, J. Hematogenous pyelonephritis in rats. I. Its pathogenesis when produced by a simple new method. J. Clin. Invest. 34: 1489-1497, 1955.
9. Kass, E. H. Chemotherapeutic and antibiotic drugs in the management of infections of the urinary tract. Am. J. Med. 18: 764-781, 1955.
10. Beeson, P. D. The case against the catheter. Am. J. Med. 24: 1-3, 1958.
11. Schwartz, W. B., Relman, A. S., Hays, R. M., and Hall, P. H. In press.
12. Thorn, G. W., Koepf, G. F., and Clinton, M. Renal failure simulating adrenocortical insufficiency. New Eng. J. Med. 231: 76-85, 1944.
13. Terepka, A. R., Toribara, T. Y., and Dewey, P. A. The ultrafilterable calcium of human serum. II. Variations in disease states and under experimental conditions. J. Clin. Invest. 37: 87-98, 1958.
14. Stanbury, S. W. Azotemic renal osteodystrophy. Brit. Med. Bull. 13: 57-60, 1957.
15. Addis, T. *Glomerular Nephritis: Diagnosis and Treatment.* (New York. The Macmillan Company, 1948.) pp. 26-35.

The Surgical Treatment Of Duodenal Ulcer

HAROLD F. RHEINLANDER, M.D.* and JOHN H. FISHER, JR., M.D.*

During recent years there has been much discussion concerning the indications and relative merits of various surgical procedures for the treatment of the patient whose duodenal ulcer has not responded to medical therapy. In many instances it is difficult to form an opinion since the statistics presented have often conflicted and the various authors do not agree. The purpose of this paper is to outline what we think to be the optimum type of management for patients with complicated duodenal ulcers and to review our experiences with 100 consecutive patients with duodenal ulcers treated by subtotal gastrectomy. The average age of these patients was 53 years; the youngest was 21 and the oldest 73 years old. There were 80 males and 20 females and the average duration of ulcer symptoms was 13.5 years.

TABLE I

INDICATIONS FOR OPERATION IN DUODENAL ULCER

Indication	*No. of Patients*
Obstruction	45
Perforation	5
Bleeding	22
Intractability	28
TOTAL	100

INDICATIONS FOR SURGICAL TREATMENT (TABLE I)

There is often much discussion among physicians concerning which patients should be treated surgically and which should be treated medically. The patient with gastric retention from a scarred and stenosed pyloric canal cannot be managed successfully on a medical program. Although prolonged gastric suction may relieve edema and obstruction temporarily, the condition almost always recurs. Procrastination results in depletion of the patient with fluid, electrolyte and protein defects all of which tend to increase the mortality and morbidity of the surgical procedure. Obstruction was the most frequent indication for surgery in this group. Forty-five per cent of this group of patients were operated on because of obstruction. Many were in poor condition and some had been hospitalized as many as six times for recurrent vomiting.

Acutely perforated duodenal ulcer is generally treated by simple plication of the blowout although emergency subtotal gastrectomy has been proved feasible in healthy individuals who are operated soon after the accident has occurred. A second perforation is generally conceded to be an adequate indication for elective gastrectomy in patients whose perforations have been treated by simple plication. Only one gastrectomy was performed for acute perforation in this group.

Most physicians agree that two or more episodes of profuse bleeding are an indication for elective operation. Acute massive bleeding which continues in spite of rigid ulcer therapy and blood replacement requires emergency gastrectomy in most instances. The proper time for surgical intervention during the course of a persistently bleeding duodenal ulcer will depend on the rate of bleeding, the age of the patient, and the availability of proper surgical facilities. The decision to operate should not be postponed until the patient is in such poor condition from prolonged blood loss that he becomes a grave surgical risk. Bleeding constituted the main indication for subtotal gastrectomy in 22 per cent of this group. Six had emergency gastrectomy for acute massive bleeding. The remaining patients had bled more than once and one patient bled massively six times before he consented to operation.

Another group of patients in whom operation is indicated are those who have frequent recurrence or persistence of ulcer symptoms while on a good medical regimen. Patients with ulcer symptoms who will not or who cannot adhere to a proper medical program should also be considered in this category. Twenty-eight per cent of our operated patients fell into this group. Ten of these were "gastric cripples" who were unable to work or to lead a normal life because of severe ulcer symptoms.

PREOPERATIVE PREPARATION

Since most gastric surgery for duodenal ulcer is elective, operation should not be scheduled until any blood, fluid, and electrolyte deficiencies are corrected. The patient with pyloric stenosis and gastric retention should be studied from a nutritional standpoint and the serum proteins restored before operation. The obstructed stomach should be decompressed fully using a large tube and copious lavage with saline solution. It is often wise to wait a couple of days before operating once the stomach has been decompressed in order to allow edema of the gastric wall to subside. In these patients prolonged vomiting of acid gastric contents may

*Surgical Service, New England Center Hospital, and the Department of Surgery, Tufts University School of Medicine.

have resulted in a severe hypochloremic alkalosis which must be corrected by administration of adequate amounts of the proper intravenous solutions. Saline solution is usually effective in replacing the fluid and electrolyte deficiencies. Ammonium chloride solution may be administered when the alkalosis is severe with a high serum bicarbonate, or in patients who may not be able to tolerate increases in their extracellular fluid volume caused by the excess sodium in the saline solution, or in patients with renal disease who cannot excrete the excess sodium. However, intravenous ammonium chloride solution must be given with caution.

Chronic anemia from blood loss or malnutrition must be corrected by whole blood transfusions adequate in amount to restore the blood volume and red cell mass to normal. Care must be taken in patients with heart disease to avoid precipitating cardiac failure by overtransfusion with whole blood. Washed red cells can be used to great advantage to correct the red cell deficit without this danger. The patient who is recovering from the effects of massive hemorrhage often does not tolerate operation well in spite of adequate blood replacement. It is wise to wait several days after the bleeding has stopped and blood volume has been replaced before operation is scheduled.

Patients who have been unable to eat properly for long periods of time because of intractable ulcer symptoms or pyloric obstruction may show evidence of weight loss and severe malnutrition. They should be prepared for surgery by replacement of blood volume and protein deficits with whole blood, plasma and serum albumin, and by properly supervised feedings if the patient is able to eat.

Choice of Operation

It is believed that subtotal gastrectomy (70 per cent) is the operation of choice for the treatment of the complicated duodenal ulcer. In recent years there has been a revival of interest in previously discarded operations as well as the development of new techniques. A common goal of these alternative procedures is to limit the amount of gastric tissue removed thus allowing for protection against ulcer recurrence with a lower incidence of secondary side effects.

The operation of vagotomy and gastroenterostomy has been extensively tested and has been discarded by many because of a relatively high rate of recurrent ulcer (8 to 10 per cent) and no evidence of a lower incidence of untoward secondary effects. At the present time we believe this operation should be reserved for patients whose age or general condition contraindicates subtotal gastrectomy or situations in which the surgeon thinks that management of the duodenal stump would be too difficult.

Subtotal gastrectomy with anastomosis of the gastric remnant to the duodenal stump, or the Billroth I type of operation, has been reported to result in a lower incidence of nutritional disturbances postoperatively.

The purpose of this paper is to outline what we think to be the optimum type of management for patients with complicated duodenal ulcers and to review our experiences with 100 consecutive patients with duodenal ulcers treated by subtotal gastrectomy. Ninety-seven per cent good to excellent results are reported in this group. . . .

Although these claims may be true, the considerably higher incidence of recurrent ulcer contraindicates the use of this procedure in duodenal ulcer. We reserve the Billroth I anastomosis for patients who have undergone subtotal gastric resection for gastric ulcer or cancer.

More recently, the combination of vagectomy and hemigastrectomy or antrectomy has been heralded as a procedure which achieves a high cure rate with a low incidence of side effects. Early results seem to support this view but larger series of cases with longer follow-ups must be obtained before one can critically evaluate the results.

Operative Technique

The proper anesthetic management is of great assistance to the surgeon in carrying out the procedure. Endotracheal intubation with administration of cyclopropane, nitrous oxide, oxygen and muscle relaxants has been the most satisfactory. Breathing is controlled by the anesthetist throughout the operation. Using this technique excellent operating conditions can be obtained for the surgeon with little disturbance and minimal after effects on the patient. A variety of incisions have been used in this hospital including: midline; left rectus; bilateral subcostal; and trans-rectus extending from the left costal margin obliquely across both rectus muscles. Midline incisions give inadequate exposure in patients who are obese or who have a short upper abdomen. Bilateral subcostal incisions give the best exposure since they expose both the area of the duodenum and the upper stomach; however, they are time consuming to open and close and the closure must be performed meticulously to avoid wound complications. The oblique incision is a compromise to avoid this difficulty but exposure of the upper stomach is limited. The left rectus incision may give poor exposure of the duodenum in obese patients while the right rectus incision may again limit exposure of the short gastric vessels and upper stomach. When paramedian incisions are used we prefer to retract the rectus muscle rather than split it. We believe the incision must be suited to the patient in each case in order to obtain the best exposure with the least amount of effort.

A thorough abdominal exploration should be carried out in order to discover any additional intra-abdominal disease. A special search should be made for nonfunctioning islet cell tumors of the pancreas since they have been shown to be related to a virulent ulcer diathesis which cannot be controlled until the pancreatic tumor has been removed. The first step in gastrectomy consists of removing the omentum from the greater curvature of the stomach. This dissection is carried from above the midpoint of the stomach down to the duodenum. The right gastroepiploic vessels are encountered close to the pylorus and are divided. The gastrohepatic omentum is opened and the right gastric vessels divided and ligated. The first portion of the duodenum is dissected free for one inch beyond the pyloric ring, a clamp is placed just beyond the ring and the duodenum transected just beyond the clamp. The open end of the duodenum is inspected for the presence of a bleeding ulcer and then closed. The closure consists of a double layer of continuous 3-0 chromic carried over and back through the edges of all layers. The stump is carefully inverted with a row of 4-0 Lembert sutures and covered with a tab of omental fat.

A difficult duodenal dissection can tax the ingenuity of the most experienced surgeon but the success of the operation hinges around a solid closure. If the ulcer is distal to the first portion of the duodenum, no attempt is made to resect it since it will heal promptly when the acid gastric secretions are removed. If an active inflammatory reaction occupies the region of the common duct or dissection must be carried out in scarred tissue in this area, it is often wise to expose the common duct and insert a "T" tube in order to prevent unrecognized damage to this structure. It is also wise to avoid dissecting into the substance of the pancreas when elevating the duodenum. A finger inserted into the open end of the duodenal stump aids in keeping the posterior dissection in the correct plane. In certain patients it is technically impossible or not feasible to mobilize the duodenum sufficiently to insure a good closure. A variety of procedures have been advocated in this situation including simple gastroenterostomy, with or without vagotomy, two stage gastrectomy utilizing the antrum for distal closure after removing its mucosa. One of us (H. F. R.) has successfully managed several patients in this category by closing the duodenal stump as securely as possible and then securing a No. 16 straight catheter into the duodenum. The catheter is placed on gentle suction and kept open for 10 to 12 days after which it is removed. The fistula usually closes in 24-48 hours. This decompression allows the duodenal stump to heal.

Following closure of the duodenum the left gastric vessels are divided and ligated and by downward traction the short gastric vessels along the greater curvature are exposed, divided and ligated. A site for division of the stomach is selected which will result in removing approximately 70 per cent of the organ. Clamps are placed across the greater curvature to include about a 1½ inch bite and after the stomach is divided between them additional clamps are placed across to the lesser curvature at a more oblique angle and the stomach is completely transected. The lesser curvature area is closed with a double layer of over-and-over 3-0 chromic sutures then inverted with simple interrupted 4-0 cotton sutures. The first loop of jejunum is brought up anterior to the colon and fixed, proximal loop to lesser curvature, to the gastric stump with interrupted cotton sutures. The jejunum is opened and the end-to-side gastrojejunostomy completed with the same suture technique. The abdomen is usually closed with interrupted cotton sutures throughout.

Gastric suction is maintained for two to three days or until peristalsis returns. The patient is encouraged to be up on the first postoperative day. Parenteral fluids are given until the patient is able to take sufficient fluids by mouth. A liquid diet is begun on the fourth postoperative day. Solid foods are gradually added so that by the end of the first week the patient is taking a full bland diet. Prophylactic antibiotics are no longer given.

TABLE II

Major Complications	
Intraperitoneal Abscess	1
Wound Separation	2
Pancreatitis	1
Obstructive Jaundice	1
Duodenal Fistula	1
Hemorrhage	1
Pulmonary Embolism	1
Myocardial Infarct	1
C. V. A.	1
TOTAL	10

Complications

Table II lists the major complications encountered in the 100 patients herein reported. The greatest hazard of subtotal gastrectomy is perforation of the duodenal stump. This serious complication occurred once and resulted in the only death of the series. At operation this patient had an unrecognized perforation, the pylorus was completely obstructed and she was debilitated. This complication should rarely be seen if duodenal closure is carefully performed or if catheter drainage of the stump is carried out when an adequate closure cannot be accomplished. Once a duodenal fistula has occurred it should be treated by sump drainage and feeding jejunostomy. The aspirated duodenal contents can then be replaced via the jejunostomy tube along with the regular feedings. On such a program the fistula will usually heal.

Postoperative pancreatitis is another serious complication which carries with it a high mortality. One such

case occurred in this series with survival only after an extremely difficult course. Trauma to the pancreas, its ducts or its blood supply must be carefully avoided during the dissection although pancreatitis may occur in the absence of such trauma. For this reason it is often best to leave the posterior penetrating ulcer in situ as long as the duodenum can be transected beyond the pylorus and closed by using its mobile anterior wall.

Postoperative hemorrhage also occurred in one patient presumably from the suture line and required several transfusions. Suture line bleeding has not been encountered when a double line of chromic sutures has been used on the inner row of the anastomosis.

Obstructive jaundice appeared in one patient presumably from inflammatory obstruction of the common bile duct since it abated spontaneously. One must be sure to visualize the common duct and to insert a "T" tube for identification if dissection of a difficult ulcer is required in this area.

One patient developed an intraperitoneal abscess which required drainage. The origin of the abscess has remained obscure and it occurred in spite of prophylactic antibiotic therapy, a practice which we have since discontinued.

The remaining five complications require little comment. Wound separation can be avoided in many instances by better closure techniques but probably cannot be totally overcome. Pulmonary and cardiac difficulties will be few with good anesthesia management but will occasionally occur.

We have not seen patients with postoperative gastric retention due to a "malfunctioning stoma." This complication is usually seen in chronically ill patients and, in our experience, can be obviated by proper preoperative preparation with correction of fluid, electrolyte, hemoglobin, and protein deficiencies. Should this difficulty happen a temporary tube jejunostomy for feeding may be lifesaving. A complication not directly following the surgical procedure but nevertheless an important one is the dumping syndrome which is characterized by pain, weakness, syncope, palpatation, and sweating directly after eating. This syndrome is now generally agreed to be due to the sudden dumping of a hypertonic mixture of food into the upper jejunum which secondarily decreases the blood volume producing a mild shock-like picture. Symptoms will disappear promptly if the patient lies down. Avoiding liquids at meals will often prevent these symptoms. Initially about one-third of our patients complained of some type of dumping. These symptoms disappear after several weeks to months. In two patients symptoms of dumping continued for almost two years. In the late follow-up period (5-10 years) no patient continues to be bothered by dumping.

Several patients have had difficulty in maintaining their weight within the normal range. These individuals usually can be selected before operation since many will have a history of always being thin and never "caring for" their food. There is little doubt that the fat and nitrogen content of the stool is increased after subtotal gastrectomy, but most patients have been able to increase their intake enough to compensate for this loss. Repeated reassurance and encouragement help a great deal in the individual who is having difficulty in maintaining his weight.

TABLE III

RESULTS OF SUBTOTAL GASTRECTOMY FOR DUODENAL ULCER

5 TO 10 YEAR FOLLOW-UP		
Excellent	80	
		→ 88 - 97 per cent
Good	8	
Poor	2	
Failure	1	
Total patients followed	91	
Operative death	1	
Lost to follow-up	8	
TOTAL PATIENTS	100	

RESULTS (TABLE III)

Ninety-one of the hundred patients have been followed for periods of 5 to 10 years since their operations. Eighty can eat a normal diet without symptoms, take no medicines, have returned to their usual occupation and can maintain a body weight above the normal minimum for their height and build. Eight patients have a good result but are underweight or have occasional gastric symptoms. However, they are all working regularly, feel greatly improved and take no medicines. Two patients have partially disabling gastric symptoms. One of these is a chronic alcoholic with pancreatitis while the second is an elderly female who cannot manage to get an adequate diet. There has been one patient with a recurrent ulcer four years after operation who was treated successfully in another hospital by transthoracic vagotomy. One patient died in the hospital for an operative mortality of one per cent. The remaining eight patients have been lost to follow-up.

SUMMARY

At the present time subtotal gastrectomy is the procedure of choice for the treatment of patients with complicated duodenal ulcers. The operative mortality and morbidity have been greatly reduced by the introduction of better anesthesia methods, by improvement in operative techniques and by a better understanding of the pre- and postoperative care of the patient. Ninety-seven per cent good to excellent results are reported in a group of 100 patients followed for from 5 to 10 years postoperatively. One marginal ulcer occurred for a recurrence rate of one per cent. The operative death rate was also one per cent.

Principles Of Electrocardiography And Spatial Vectorcardiography

JUSTIN L. RICHMAN, M.D.*

Thus far, the greatest contributions from Vectrocardiography have been in clarifying much of electrocardiographic theory. . . . It is apparent that the whole of classical electrocardiographic thought must and is being reoriented in the light of vectorcardiographic studies and principles.

"Electromotive changes accompanying the heart's beat" in man have interested investigator and clinician since Waller's original report in 1887.[1] Basically the interest has been in the electromotive forces as they occur in the heart itself. These have been studied directly in the experimental animals,[2,3] but the methods are not practical in intact animals, and especially not in humans. Both researcher and practitioner have had to content themselves with body surface recordings of these cardiac forces distorted in transmission.

The relationship between these surface recordings and the true cardiac potentials has been controversial for many years. There are two schools of thought — the Einthoven and the Wilson. Both schools agree on the nature of the cardiac electromotive force — the "dipole theory."[4] Accordingly, heart muscle is considered electrically to be like a battery having positive and negative poles or fields. The source of the dipole is activation (depolarization) and recovery (repolarization) of the myocardium. At each instant, small segments or units of myocardium individually contribute dipoles to the total electrical field. As the recording is taken progressively distant from the electrical field source, the greater is the tendency for these component dipoles to summate into a single electromotive force or dipole. This is then an "instantaneous resultant electromotive force."

The two theories differ, however, in whether recording sites on the body surfaces are far enough away from the electrical field source for the multiple component dipoles to act as a single dipole or whether they are close enough to record specific component dipoles.

Wilson[3,5] found that the electromotive forces recorded from unipolar lead electrodes on the chest wall of animals closely resemble those recorded by direct application of electrodes to the heart. He concluded that such recordings could be considered "semidirect," that is, to be tapping specific areas of the heart for their component dipoles. There then resulted such concepts as "left ventricular complex" and "right ventricular complex," implying that specific leads record forces from these specific myocardial areas.

However, Wilson[5] himself warned that even with electrodes placed directly on the myocardium, recordings could not be considered to be uninfluenced by potentials from the remainder of the myocardium. Many recent investigations bear this out and indicate that all body surface recordings and to a considerable extent, even intracorporeal recordings should be viewed as those, not of component dipoles, but of resultant dipoles.[6-10]

Einthoven, Fahr and deWaart[11] in attempting to study Waller's electromotive changes made a number of assumptions: the manifest dipole is very small and centrally located; the dipole is in a volume conductor of very large dimensions and of uniform resistance; and the two arms and the left leg are distant and equidistant from the electropotential source. Thus, the electromotive force could be conceived as being in the exact center of an equilateral triangle whose sides are bipolar leads formed by the three pairings of the three limb sites. From this schema of the equilateral triangle, Einthoven calculated "the direction and manifest magnitude" of the cardiac electropotentials using vector analysis.

A vector is a geometric representation of any activity which has the three qualities — magnitude, position in space and sense (polarity). A force, such as an electromotive force, has these properties; it can be represented therefore, vectorially by an arrow whose length is proportional to the magnitude of the force, whose position is the position of the force in space and whose arrowhead indicates polarity, arbitrarily the positive pole.

For analysis, an electromotive force vector can be

*Department of Medicine, Tufts University School of Medicine and the Medical Clinic of the Boston Dispensary.

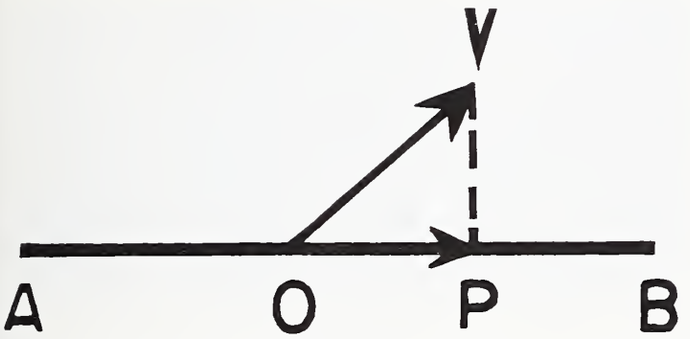


FIG. 1A. AB is the lead and OV the vector. A perpendicular is dropped from the terminus V to AB at point P. OP is the recorded projection; its length is the magnitude of the *projection* of the vector and the polarity is that of the vector (depending on whether A or B is the positive or negative pole).

viewed from points of reference or leads. A lead records not the vector, per se, but a projection of the vector onto that lead (Fig. 1A). It is apparent from this figure, that while a magnitude function of the vector and its polarity are determined, the position in space is not. Such a mathematical derivative is a scalar function which is what electrocardiographic leads record. By determining the projections of the vector onto two leads which are in one plane and which have a known angle relationship, the vector in that plane can be determined for all three characteristics (Fig. 1B). If three spatial leads are chosen with a common intersection and known angle relationships, the vector can be analyzed or defined three dimensionally or spatially.

Einthoven used this method to determine the vectors of the cardiac electromotive forces at various points in the cardiac cycle but only as projected on a single-plane — that formed by the limb leads. Grant,[7] using the standard electrocardiogram, extended vector analysis by attempting this three-dimensionally. In 1916, however, Williams[12] pointed out the difficulties and pitfalls of the determination in a single plane because of the error introduced when non-simultaneous points in the cycle are selected for plotting. This element of error is compounded by adding a third dimension.

Obviously an instrument which would directly record the spatial cardiac vectors would be ideal. However, no such instrument is available. Lacking this, an instrument which can record planar views of the cardiac vectors can be used, since two or more planes, whose relationships are known, can be employed. From these planar views the spatial vectors can be mentally or physically reconstructed. Such an instrument is the Vectorcardiograph.

A Vectorcardiograph consists of two sets of amplifiers and a cathode-ray oscilloscope.[13,14] The former amplify the small potentials from the body surface, as in the electrocardiograph, and then "feed" the magnified potentials into a cathode-ray oscilloscope. A cathode-ray oscilloscope is an automatic electronic graphing device with an indicator of negligible inertia (Fig. 2). It consists of an electron "gun" which produces a stream of electrons. The latter impinges on a screen which fluoresces when struck by electrons. The electron stream passes between two perpendicular sets of two parallel plates. These sets of parallel plates are positioned one vertically and the other horizontally. When one plate of either set is made electropositive and the other electronegative, the electrons (electronegative) will move toward the positively and away from the negatively charged plate, moving the spot on the face of the tube a distance directly proportional to the electropotential introduced. Thus, if simultaneously, two perpendicular views of the same electromotive force are introduced, each to its respective set of plates, the spot will move on the screen to a point representing the electropotential itself. (Figs. 1B and 2.)

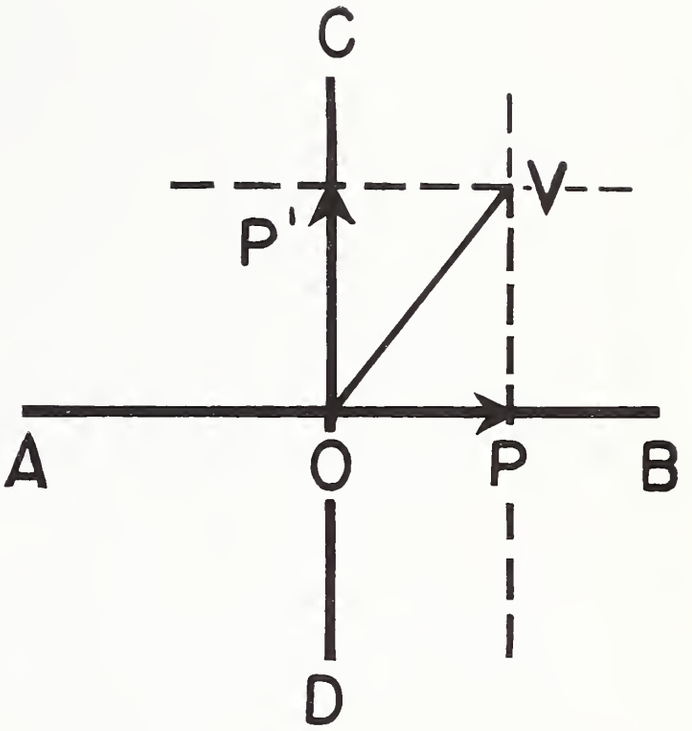


FIG. 1B. Two leads AB and CD are perpendicular to each other at point O in the plane of the page. OP is recorded on AB and OP′ is recorded on CD. Since each lead records a projection of the vector, the vector must be on a line perpendicular to each lead through points P and P′ respectively. For these two perpendiculars, there is only one common point-V-which when connected to O gives the vector OV.

In Vectorcardiography, three leads are selected on the body surface which are perpendicular to each other. The leads selected embody the "reference system." Unfortunately, there are a number of reference systems in use with no agreement at present as to which is best.[6,14,15,16] In combinations of two, the leads are introduced onto the respective plates on the cathode-ray oscilloscope and automatically graphed. This gives a planar view of the cardiac vectors; by recording two or three perpendicular planes, the cardiac vectors can be determined spatially — this is a Spatial Vectorcardiogram.

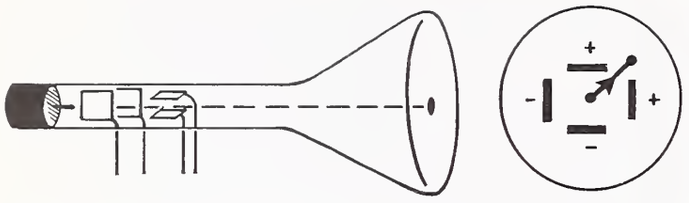


FIG. 2. On the left is a lateral schematic representation of a cathode-ray oscilloscope tube. Its left end is the source of electrons, the stream of which is represented as a dotted line impinging on the tube face where it produces a spot of light. In the long narrow part of the tube can be seen the two perpendicular sets of parallel plates with the electron stream passing between each set of plates. On the right is a head-on view of the tube screen with the plates seen on edge. As an example, the upper and right plates are positive thereby moving the spot up and to the right.

From instant to instant during myocardial depolarization and repolarization, the resultant electromotive forces vary as new myocardial areas contribute dipoles and other areas cease to contribute; the actual sequence is dependent on the order of myocardial activation and the status of the myocardium itself. The resultant cardiac vectors thus change from instant to instant.

On the oscilloscope screen one can recognize for each heart beat a series of three loops formed by these instantaneous vectors. (Fig. 3) The largest is that of ventricular depolarization—QRSsE.* In most normals[6,8,10,14,15,17,18] this is a long, narrow, smooth, elliptical loop which is in one plane; the long axis is directed more or less to the left, inferiorly, and anteriorly or posteriorly; and the starting point (O or E) is near the superior apogee on the posterior limb. The second largest loop is that of ventricular repolarization or the TsE.* This is long and narrow, about one third to one half the size of, and more or less within and parallel to the QRSsE.* The smallest loop is that of auricular depolarization — the PsE.* This is irregular in shape (often like a mitten) and also more or less within the QRSsE.*

It is apparent that from such a visualization of the cardiac vectors, not only can the individual instantaneous cardiac vectors be defined as to magnitude, position and sense,[18] but the interrelationships of all the cardiac resultant forces of any one cycle can be studied.[19,20] Milnor[19] has in fact attempted to classify vectorcardiograms into three types as to the QRSsE:* firstly, those having the characteristics described above with abnormality being dependent on the position of the total loop in space; secondly, those in which the loop is distorted, but still within a single plane; and thirdly, those in which the loop is distorted such that it is not all in one plane.

While it is apparent that the spatial vectorcardiograph gives a more complete and direct view of the cardiac potentials than the electrocardiograph (regardless of how many leads are taken), the question can be raised whether the former contributes important information be-

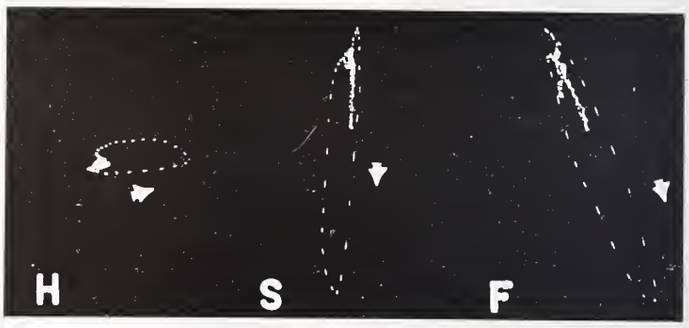


FIG. 3. Normal spatial vectorcardiogram. The three projections labelled are H for horizontal, S for sagittal and F for frontal. The horizontal or transverse projection is a view of the vectors looking down through the patient's head with the patient on his abdomen. The sagittal view is that from the right side. The frontal view is that of the front of the patient's chest. The loops are interrupted for timing at a rate of 400 times a second. The arrows indicate the order of inscription of the QRS loop.

yond that provided by the latter. From the research standpoint it is obvious that the more complete the information, the greater the value. Thus far, the greatest contributions from Vectorcardiography have been in clarifying much of electrocardiographic theory.[6,9,10,21] As indicated above, the concept that unipolar chest leads are "semidirect" is no longer tenable. The designation of leads as being "left ventricular," "septal," or "right ventricular" is no longer valid. The theory of an "electrical window" to explain the electrocardiogram of myocardial infarction is in disrepute. It is apparent that the whole of classical electrocardiographic thought must and is being reoriented in the light of vectorcardiographic studies and principles.

Clinically both methods are empirical, but here too, the contributions from Vectorcardiography are great. The first is that interpretation is simplified since inference of the cardiac vectors is obviated by their direct recording. Peculiar, but normal electrical heart positions are immediately recognized as such and not confused with intrinsic abnormalities[20] as is often the case in Electrocardiography. Furthermore, Soffe, Richman and Wolff[22] in a comparative autopsy study reported greatly improved diagnostic accuracy in right ventricular hypertrophy, left ventricular hypertrophy, combined ventricular hypertrophy and myocardial infarction. In addition, in some entities, as in the diagnosis of high or true posterior myocardial infarction, Vectorcardiography has improved electrocardiographic diagnosis.[9]

While admitting the research, theoretical and clinical superiority of Vectorcardiography, there are certain disadvantages to the method. In Electrocardiography voltage is plotted against time and thus repetitive events, such as heart rhythm, are easily studied. However, in Vectorcardiography voltage is plotted against voltage; timing of repetitive events is impossible, although timing of individual events, such as the QRS interval, is possible. An electrocardiographic lead must, therefore, be obtained for study of cardiac rhythm.

*Should read . . . $\hat{E}$

As to theoretical deficiencies, it is apparent that the records are those of surface potentials from which the *true* cardiac vectors or potentials are inferred. This presupposes the veracity of Einthoven's postulates. Of course, none of these is strictly true.[23,24,25] The body is too small, the heart too large, the conductor not uniform. Also, the dipole is probably not centrally located; in fact there may be more than one dipole site. These are serious deficiencies if the information obtained is to be subjected to exacting mathematical analysis. These objections, however, are true of both Vectorcardiography and Electrocardiography and no more so in either method. But to deny the usefulness of either technique because of these inaccuracies is to deny clinicians tools which on empirical grounds have proved themselves of great value over the years.

Waller indicated in his studies that he understood vector concepts. Next in attempting to arrive at the cardiac vectors, Einthoven introduced his triangle. Others contributed leads which added the third dimension. All these studies were directed at defining the spatial cardiac electromotive forces. The next logical step was the direct recording of these spatial cardiac forces. Vectorcardiography is, therefore, not a new parameter of study, but the logical extension of the early approaches.

It does not deprecate the great contributions to our knowledge from Electrocardiography to anticipate that further contributions from the method will be small. It has in fact given rise to Vectorcardiography, much as the child matures into the adult, from which even greater contributions can be anticipated.

References

1. Waller, A. D. A demonstration on man of the electromotive changes accompanying the heart's beat. J. Physiol., 8: 229, 1887.
2. Lewis, T. and Rothschild, M. A. The excitatory process in the dog's heart. Part II, The Ventricles, Phil. Trans. Roy. Soc. Lond. Series B 206: 181, 1915.
3. Wilson, F. N., Johnston, F. D. and Hill, I. G. W. The interpretation of the galvanometric curves obtained when one electrode is distant from the heart and the other near or in contact with the ventricular surface. II Observations on the mammalian heart. Am. Heart J., 10: 176, 1934.
4. Craib, W. H. A study of the electrical field surrounding atrial heart muscle. Heart, 14: 71, 1927.
5. Wilson, F. N., Johnston, F. D., Rosenbaum, F. F., Erlanger, H., Kossmann, C. E., Hecht, H., Cotrim, N., Menezes de Oliveira, R., Scarsi, R., and Barker, P. The precordial electrocardiogram. Am. Heart J., 27: 19, 1944.
6. Duchosal, P. W. and Sulzer, R. La Vectorcardiographie, 172 pp. Basel: S. Karger, 1949.
7. Grant, R. P. and Estes, E. H., Jr. The Interpretation of the Electrocardiogram by Vector Methods, 149 pp. Atlanta, Georgia: Emory University School of Medicine, 1949.
8. Milnor, W. R., Talbot, S. A. and Newman, E. V. Study of the Relationship between unipolar leads and spatial vectorcardiograms, using the panoramic vectorcardiograph. Circulation, 7: 545, 1953.
9. Grishman, A. and Scherlis, L. Spatial vectorcardiography, Philadelphia: W. B. Saunders Co., 1952.
10. Wolff, L., Richman, J. L. and Soffe, A. M. Spatial vectorcardiography: Review and Critique. N.E. J. Med., 248: 810 and 851, 1953.
11. Einthoven, W., Fahr, G. and de Waart, A. Uber die Richtung und die manifeste Grösse der Potentialschwankungen in menschlichen Herzen und den einfluss der Herzlage auf die Form des Elektrokardiogramms. Arch. f.d. ges. Physiol., 150: 275, 1913.
12. Williams, H. B. On cause of phase difference frequently observed between homonymous peaks of electrocardiogram. Am. J. Physiol., 35: 292, 1914.
13. Wilson, F. N., Johnston, F. D. and Barker, P. S. Use of cathode-ray oscillograph in study of monocardiogram. J. Clin. Investigation, 16: 664, 1937.
14. Schellong, F. Elektrokardiographische Diagnostik der Herzmuskelerkrankungen. Verhandl. d. deutsch. Gesellsch f. inn. Med., 48: 288, 1936.
15. Abildskov, J. A., Burch, G. E. and Cronvich, J. A. Validity of equilateral tetrahedron as spatial reference system. Circulation, 2: 122, 1950.
16. Grishman, A., Borun, E. R. and Jaffe, H. L. Spatial vectorcardiography I. Am. Heart J., 41: 483, 1951.
17. Sherlis, L., Lasser, R. P. and Grishman, A. Spatial vectorcardiography: Normal vectorcardiogram VI. Am. Heart J., 42: 235, 1951.
18. Young, E., Wolff, L. and Chatfield, M. S. The Normal Vectorcardiogram I. Am. Heart J., 51: 713, 1956.
19. Milnor, W. R. and Bertrand, C. A. The normal vectorcardiogram and the classification of abnormals: Proc., 2nd World Congress of Cardiology, Washington, D. C., 1954.
20. Wolff, L., Richman, J. L. and Soffe, A. M. Effect of heart position and rotation on the cardiac vector: An experimental study. Am. Heart J., 47: 161, 1954.
21. Richman, J. L. and Wolff, L. Left bundle branch block masquerading as right bundle branch block. Am. Heart J., 47: 101, 1954.
22. Soffe, A. M., Richman, J. L. and Wolff, L. Comparative value of electrocardiographic and vectorcardiographic diagnosis: Pathological correlation. Proc., 2nd World Congress of Cardiology, Washington, D. C., 1954.
23. Burgher, H. C. and Van Milaan, J. B. Heart vector and leads. Brit. Heart J., 8: 157, 1946.
24. Idem. Heart vector and leads (with description of new phantom). Brit. Heart J., 9: 154, 1947.
25. Idem. Heart vector and leads. Part III. Geometrical representation. Brit. Heart J. 10: 229, 1948.

Experience With Methylphenidate Hydrochloride (Ritalin®)

Irving W. Schiller, M.D.*

The introduction of a new compound with sympathomimetic properties, and possible application in the field of hypersensitivity, is viewed with a good deal of interest. A synthetic agent, methyl-a-phenyl-2-piperidineacetate hydrochloride, generically known as Methylphenidate, Ritalin,® (Figure 1), was shown to have psychoanaleptic or central nervous stimulating activity and an action which lay somewhere between amphetamine and caffeine.[1,3] The sympathomimetic effect of Ritalin was found to be less, however, than that of either of these drugs. Of added interest was the fact that Ritalin stimulated respiration, especially when the respiratory center was inhibited by morphine-like drugs. In other experiments Ritalin was found to potentiate the pressor response of epinephrine, norepinephrine and naphazoline but blocked the pressor response to ephedrine and emphetamine.[4]

In the experimental animal Ritalin was shown to increase motility, especially the urge to move about without becoming aggressive. In dogs, ten minutes following an intravenous injection of 1 mg/kg, in addition to the activity already mentioned, respiration became accelerated. Both of these effects gradually subsided after approximately 45 minutes. Ritalin, in other studies, has been shown to have a relatively low toxicity.[5]

In this present report an attempt was made to determine possible deleterious effects of prolonged administration of Ritalin in man and to obtain clinical information, within the limits of the study, on the therapeutic efficacy of the drug.

Methods and Materials

Ritalin was administered orally to 13 patients for a period of approximately seven months. Seven patients had perennial allergic rhinitis, three had bronchial asthma and three had both allergic rhinitis and bronchial asthma. Though the disease in the asthmatic patients was highly reversible, most complaints in the patients with allergic rhinitis were of the persistent variety. At the time the patients were selected, their symptoms were mild to moderate in severity; all were receiving injections of allergenic extracts and continued to do so throughout the course of the study. The patients were urged to avoid the use of other medications intended for the relief of symptoms. Fifteen mg of Ritalin a day was prescribed to be taken in three equally divided doses between their rising in the morning and the evening. Daily doses in some patients, however, had to be decreased to 7.5 mg. Unless side reactions occurred, the patients were instructed to take the drug irrespective of "need." Patients were seen at intervals of 7 to 14 days for a period of weeks to months with Ritalin taken orally from 26 to 185 days with an average of 102 days. No attempt to do a double-blind study was made since the primary purpose of the investigation was to determine possible toxic or untoward effects from prolonged administration of the drug. Nevertheless, careful inquiry was made in all patients concerning the effectiveness of Ritalin in relieving symptoms.

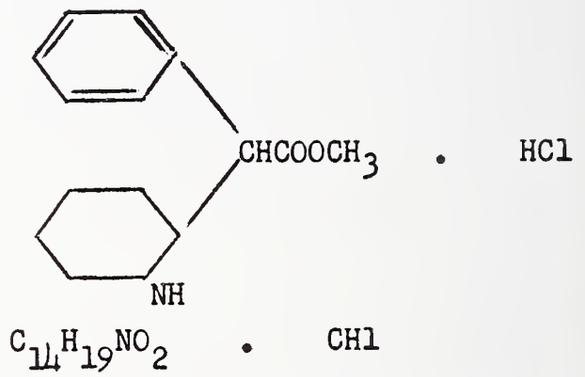


Fig. 1 (Ritalin) Methyl-a-Phenyl-2-Piperidineacetate Hydrochloride.

Prior to, and following the administration of Ritalin, urinalyses and studies of the hemoglobin levels, leucocyte and differential counts were obtained in all patients. The laboratory examinations were repeated at approximately four-week intervals though, in several instances, this period had to be extended an additional one or two weeks.

Results

Of the 13 patients in whom the urinalyses were followed at stated intervals, evidence of renal dysfunction was found in none. This was based both on the absence of glycosuria or albuminuria and on examination of centrifuged sediments which did not reveal abnormal

*Allergy Clinic, Boston Dispensary, New England Center Hospital; Department of Medicine, Tufts University School of Medicine and Allergy Service, Newton-Wellesley Hospital.

*Kindly supplied by Ciba Pharmaceutical Products Inc., Summit, New Jersey.

microscopic elements. Likewise, the 13 patients in whom hemoglobin determinations and complete blood counts were periodically made, evidence of anemia, leucopenia or abnormalities of the microscopic picture of the blood was not observed.

Based on statements made by the patients the following criteria were used in the evaluation of the clinical results: *excellent relief,* if complete or almost complete relief of symptoms occurred within 30 minutes and lasted for three or four or more hours; *good relief* if relief was between 50% to 75% and lasted two or more hours; *slight relief* if relief was between 25% to 50% and lasted one to two hours; and *no relief* if relief was less than 25% or if the duration of effectiveness was short. Of the 13 patients, two reported excellent relief of symptoms; in eight relief was good, in one relief was slight and no relief was obtained in two. The patients who experienced slight or no relief were in the group with allergic rhinitis.

Side reactions were seen in four of the 13 patients. In one nervousness was so marked that the drug had to be discontinued; one patient had moderate interference with sleep and with reduction in dose had no trouble thereafter; two patients complained of feeling lightheaded but were able to continue on the preparation since this effect, when it occurred, was extremely mild and disappeared within 10 or 15 minutes. Seven of the 13 patients experienced a marked increase in energy and ability to do work. These patients appeared more extroverted and affable, and readily discussed their personal and medical problems.

Discussion

The above toxicologic data indicate that prolonged administration of Ritalin does not give rise to significant abnormalities in the formed blood elements or in renal function. There were no overt toxic manifastations and the tolerance by the patients for Ritalin was excellent. The clinical data show the Ritalin exerted a beneficial effect in some patients with allergic rhinitis and, particularly, in those with bronchial asthma. In contrast, is another report[6] in which the effectiveness of Ritalin, in patients with bronchial asthma, was appraised. Employing a double-blind study, using tablets coded by color, orally administered Ritalin was compared with ephedrine sulfate and a placebo. Ritalin was found to do little to relieve the manifestations of bronchial asthma. In this same study, these investigators however were also able to show that when Ritalin was given as an aerosol, following the inhalation of isopropyl-arterenol (Isuprel®) to patients with obstructive pulmonary disease, there was suggestive evidence that Ritalin potentiated the bronchodilator activity of Isuprel. In a subsequent report[7] in which more detailed pulmonary function studies were carried out before and after intravenously administered Ritalin, it was shown that the drug increased both the vital capacity and the maximal expiratory flow rate. Depth and rate of respiration also was actively stimulated and, despite this, these asthmatic subjects felt that they could breathe more deeply and with less effort. This was regarded as evidence of bronchodilitation.

From our findings, and those of others, it appears that Ritalin may be useful in the management of certain allergic states. Though not as effective as ephedrine, Ritalin has the advantage of relieving the depression which may frequently be present in patients with allergic disease. Preliminary observations suggest that Ritalin in combination with antihistamines may be useful in minimizing the soporific effects induced by these drugs and, as alluded to above, may also potentiate other bronchodilator preparations.[6] More definitive studies in this direction are now in progress.[8]

Summary

Methyl-a-phenyl-2-piperidineacetate hydrochloride, Ritalin, a new analeptic drug was administered in 13 patients with allergic rhinitis and bronchial asthma with the majority of these patients under observation for several months. Ritalin was taken orally in doses of 7.5 mg to 15 mg daily for an average of 102 days and produced no significant abnormalities in the formed blood elements or in renal function.

The clinical impression was gained that Ritalin may be of some value in the management of certain allergic states, though further study would be desirable to define more clearly its usefulness.

Side reactions, chiefly central nervous system stimulating effects, were seen in about one-third of the patients but these, in general, were easily handled.

There is suggestive evidence that combinations of Ritalin and other bronchodilators or antihistamines may prove to be of considerable interest.

References

1. Ferguson, J. T. Treatment of Reserpine-Induced Depression with New Analeptic, Phenidylate, Ann. New York Acad. Sc., 61: 101, 1955.
2. Carter, C. H. Effects of Reserpine and Methyl-Phenidylacetate (Ritalin) in Mental Defectives, Spastics, and Epileptics, Am. Psychiatric Association, Psychiatric Research Reports, No. 4, p. 44, 1956.
3. Ferguson, J. T., Linn, W. V. Z., Sheets, J. A., Jr., and Nickels, M. M. Methylphenidate (Ritalin) Hydrochloride Parenteral Solution, J. A. M. A., 162: 1303, 1956.
4. Maxwell, R. A., Plummer, A. J., Ross, S. D., Paytas, J. J., and Dennis, A. D. Antihypertensive Effects of the Central Nervouse Stimulant, Methylphenidate, Arch. Int. Pharmacodyn, CXII: Nos. 1 and 2, 1957.
5. Meier, R., Gross, F. and Tripod, J. Klin. Wchnschr., 32: 445, 1954.
6. Schiller, I. W. and Lowell, F. C. An Appraisal of Oral and Aerosolized Methylphenidate Hydrochloride (Ritalin) in obstructive Pulmonary Disease, J. of Allergy, 29: 151, 1958.
7. Schiller, I. W. and Michelson, A. L. Methylphenidate Hydrochloride (Ritalin) in Obstructive Pulmonary Disease, J. of Allergy, 29: 160, 1958.
8. Schiller, I. W. Unpublished Observations.

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D.	Togus	Fourth District, JAMES E. POULIN, M.D.	Waterville
Second District, WALDO A. CLAPP, M.D.	Lewiston	Fifth District, MARCUS A. TORREY, M.D.	Ellsworth
Third District, RALPH P. EARLE, M.D.	Vinalhaven	Sixth District, RICHARD C. WADSWORTH, M.D.	Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville PEARL R. FISHER, R.N., Waterville

Guest Editorial

The Role Of The Community Hospital In The Pursuit Of Medical Excellence

J. A. CURRAN, M.D.*

Over the past decade and a half, the hospitals in Maine, which were strained to the limit of their resources during World War II, have been making many commendable gains, and more are in progress. Of the 48 community hospitals now in operation, approximately one-third are in new buildings or will be in the near future. Another third have undergone extensive reconstruction and expansion. The remainder occupy quite satisfactory quarters through considerable modernization and the acquisition of new equipment.

These advances, designed to provide more medical care of a steadily higher quality for the people of Maine and the thousands of summer visitors, have gone on in the midst of growing international tension and threats of an outbreak of World War III. Never has the world seemed to be facing such challenges to freedom, peace and security. The menace of possible atomic hostilities with casualties among civilians running into the millions staggers the imagination. As a consequence, because of its strategic location, Maine, with its great airfields, shipyards and other industries, has had to devote serious attention to organization of Civil Defense programs. Since sequence of crises seems to be more or less the normal pattern of existence and will be for years to come, community hospitals, their trustees and staffs, with great faith, courage and determination, are continuing to strive toward higher standards of medical care in the confidence that this is one of the sure ways for the continuance of the American way of life.

Over the past 15 years as consultant to the Bingham Associates Fund, I have had the great privilege of observing the progress of practically all the hospitals in Maine through repeated personal visits. In 1943, under war time conditions with 184 doctors away on military service, the 718 remaining were hard-pressed to meet the heavy demands upon them. The fact that the latter group averaged 61 years of age, dramatized the fact that practicallly all of the young physicians in the state at that time were in uniform.

During the years since, with the return of men from the service, there have been encouraging reinforcements to the profession of young, well-qualified generalists and specialists, and as a consequence, hospital services throughout the state have been greatly strengthened. This has been especially true in communities where modern facilities and more efficient hospital organiza-

*Trustee and Consultant, Bingham Associates Fund.

tion, system, cooperation and new equipment have amplified the scope and improved the quality of medical services.

As has been the case for the rest of the country, these gains are most evident in urban areas where hospitals, doctors, nurses and other personnel are concentrated. The problem of distribution of these resources to rural districts still awaits adequate solution. Actually, Hill-Burton subsidies have helped to provide hospital facilities for undersupplied areas faster than medical, nursing and technical manpower can be secured to staff them!

At a hearing before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives in May, 1958, Daniel F. Hanley, M.D., Executive Director of the Maine Medical Association, reported that 48.3 percent of Maine's citizens live in rural areas, compared to 36 percent for the country at large. Since 90 rural communities in the state have reported a need for more adequate medical coverage, the obvious need is to construct small diagnostic and treatment centers in these small towns and villages to attract enterprising and idealistic young physicians. A basic first step to make this possible is fund-raising both from local and outside sources. At the above-mentioned hearing, attempts were made to secure modification of the Hill-Burton regulations to permit a subsidy of such projects.

It is contemplated, of course, that theses doctors will obtain staff membership in neighboring general hospitals and continue their professional development through participation in educational activities of organized medicine, the Academy of General Practice, urban medical centers and the Bingham Associates Fund Program.

A pioneering unit of this type has come into being at Steep Falls, Maine, largely through local initiative and fund-raising. It has been successful in securing a physician who maintains regular contacts of educational value with the Maine Medical Center in Portland. Other communities throughout the state are actively engaged in similar moves.

In between the rural villages and the large urban centers are found the majority of Maine's community hospitals in towns of medium size. The Bingham Associates Fund, since the time of its organization 27 years ago, has been endeavoring, through the encouragement of regional medical systems with bases in Boston, Lewiston, Bangor and Waterville to bring all hospitals and medical personnel desiring assistance every possible contact with the latest in modern medical advances. This has been implemented through postgraduate opportunities, training courses, rotation of house staffs from the New England Center Hospital through cooperating centers in Maine and Massachusetts and a variety of consultative services. Over recent years the Bingham Associates Fund contributions are being increasingly amplified by special grants secured from philanthropic, foundation, industrial, government and public agency support for evaluation studies and for extension of regional medicine to other areas such as in western Massachusetts. A subsidy in the form of a personal gift from the Honorable Frances P. Bolton was secured for the collegiate nursing program at the University of Maine. The Oxford Paper Company and the Bingham Associates Fund have joined in aiding the Rumford Community Hospital to establish a model nurses aide training school.

A community-wide rehabilitation and long-term illness care program at Waterville under full-time leadership and the support of the Thayer and Sisters Hospitals and the Bingham Associates Fund was initiated on July 1, 1958.

At the Maine Medical Center, the trustees and medical staff have decided to set up a medical education program under full-time leadership with financing from local, Bingham Associates Fund and probably foundation sources. All of these moves, of course, are only part of a number of encouraging new developments throughout the state fostered by voluntary and state agencies, hospitals, organized medicine and nursing and a number of special organizations.

The extent of general advance in standards of hospital excellence can be measured in various ways. One method is to examine the degree to which the Community hospitals in Maine have attained the approved status of the Joint Commission on National Accreditation. In the August 1, 1958 issue of HOSPITALS, we find that of the 48 hospitals in Maine which may be considered "community" in type, 23, or nearly one-half, had failed to attain full accreditation. Since the Joint Commission's standards are intended to insure the minimum of essential medical and nursing attention to patients, and its requirements are to be considered not as a ceiling but as a floor on which to build even higher attainments in the way of hospital care, it is obvious that there is much to be done in bringing all hospitals up to the level at which they should operate. It should be pointed out that this finding is not peculiar to Maine as one finds in the Joint Commission's report of the 3,477 hospitals in the United States, only a little more than 50 percent are able to attain fully accredited status.

One of the reasons offered for the lack of success of community hospitals in attaining accreditation has been that these requirements cannot be met without the advantage of intern-staff services. As an answer, it is necessary to remind ourselves that more than 80 percent of all American hospitals do not have house staffs. Only 12 percent are approved for internship and 17 percent for residency. In any case, with or without interns, the final responsibility for diagnostic studies and treatment rests with the physician in charge to see that the history, the physical examination, differential and working diagnosis, laboratory tests and recording of progress notes, discharge summaries and final diagnoses according to accepted nomenclature are

completed. Since, of necessity, the hard-pressed physician must play the title role in this medical drama, every effort must be made "to write the script" by which he can fulfill his *essential* obligations to his patients while *delegating* what he can to associated technical and secretarial personnel. The great problem is to avoid unsupervised *relegation* of the doctor's essential responsibility.

Another evaluation of medical progress in Maine in 1956 under the supervision of Dr. Wilson G. Smillie, former professor of preventive medicine at Cornell University, culminated in the report: "The Unmet Needs in the Medical Care of Rural People — State of Maine." One striking conclusion was that Maine, with a population of 10.2 percent over 65 years of age, had reached a point where the rest of the nation will be about the year 1990; thus presenting a unique opportunity to explore ways and means in Maine for better geriatric care *now* for application to the rest of the country a generation hence.

The Report contained an endorsement of the soundness of regional center developments and of cooperative systems among community hospitals and doctors on a voluntary basis, as developed under local leadership and with the support of organized medicine. The Bingham Associates Fund was commended for working closely with the state medical association in helping to attract physicians to the state and to further their post-graduate opportunities. It was urged that this cooperation continue in further steps to deal with such unmet medical care problems as: those in the undersupplied rural areas; the need for better coordination of the care of older people in nursing homes with general hospitals; the lack of a constructive program in mental health; an undersupply of nurses at all levels; and finally, "the real need to acquaint the people of Maine as to the essentials of a well-coordinated health promotion service."

"It is clear (the Report continued) that unmet needs in comprehensive medical care for the people of Maine, and particularly the rural people, are not peculiar to this state. . . . In fact, Maine has shown a strong leadership in developing a solution to its special problems and has gone further in its thinking and planning than many other states. . . .

"It is probable that leadership will continue to be exerted in Maine and that the solution of Maine's own problems by Maine people will serve as a stimulus and example to other less favored areas in the whole country."

In this task a fundamental consideration is strengthening of community health efforts by centering them in community hospitals making real strides toward standards of medical excellence.

Across The Desk

Model Law On Nursing Homes For States Being Drafted By PHS

The Public Health Service is working on model legislation and regulations for nursing homes and homes for the aged, which will serve as a guide to States and Territories interested in revising their statutes and rules. The project was requested by the Association of State and Territorial Health Officers and the National Conference on Nursing Homes for Aged. Various groups are being invited to review and comment on the drafts.

The first step by the PHS working group is to establish terminology. In the words of a report on a proposed definition and numbering system: "The terminology used to refer to nursing homes and homes for the aged is quite confusing. The same term often means different things to different people and makes communication at a national level difficult and often impossible. Therefore, it is proposed to use numbers to refer to the various kinds of facilities." Examples:

Series 210 Facility — A facility whether operated for profit or not, including those run by the state or other political subdivision, which provides for a period of not less than 24 hours a day intermediate care for two or more individuals. Such care is defined as nursing care, diet therapy, physical therapy, occupational therapy, recreational therapy and both social group work and social casework.

Series 310 Facility — A facility, profit or non-profit, operated for the purpose of providing nursing care. Such care is that given by or under the supervision of a registered nurse.

Series 410 Facility — Profit or non-profit facility providing personal care. This is defined as such assistance, with the every day essentials of living, as does not require the services or supervision of a registered nurse.

The proposed draft would require patients in a series 210 or 310 facility be under the care of an attending physician, while individuals in series 410 facilities must have periodic medical examinations if they are not

under the care of a doctor. In no case would the home qualify under the definition unless it is providing, or is prepared to provide, care for at least two individuals who are not related to the owner or manager.

Medicare Lists Spending By States For Last Fiscal Year

Dr. Frank B. Berry, Assistant Secretary of Defense for medical affairs, has prepared a list of state-by-state expenditures for Medicare for the fiscal year that ended on June 30. Shown are total claims, total paid, hospital claims and bills paid and physicians' claims and bills paid. Also indicated in each case are the percentage each state represents of the total Medicare expenditures. Total paid was $84.7 million, which does not include a carryover of approximately $18 million. Of the $84.7 million, $39.6 went to hospitals and $45.1 million to physicians. California had by far the biggest total — 158,440 claims, $6.6 million paid to hospitals, $7.5 to physicians. Other states having physician payments of over a million dollars were Florida 2, Georgia 1.5, Louisiana 1, Massachusetts 1.2, New York 1.4, North Carolina 1.3, Ohio 1.3, Pennsylvania 1.3, South Carolina 1, Texas 3.9, Virginia 2 and Washington 1. Administrative costs of about $2 million — paid by the U. S. — are not included in the totals.

- Maine received $703,992 — 0.83% of total amount paid.
- There were 3,700 hospital claims — 1.05% of total hospital claims, $373,269 paid to hospitals — 0.94% of total paid to hospitals.
- There were 4,598 physicians claims — 0.77% of total physicians claims, $330,723 paid to physicians — 0.73% of total paid to physicians.

Dr. Berry has sent copies of the list to all members of the Senate and House Armed Services and Appropriations Committees and following the November election will send copies to all members of the new Congress. On October 1, Medicare initiated restrictions designed to cut this fiscal year's payments to private hospitals and physicians to $70.2 million — in contrast to last fiscal year's $84.7 million, plus the $18 million carryover.

Five Cities Now Have New Medical Cost Panels

The Department of Labor's overhaul of its system of determining costs of medical, hospital and auxiliary health services throughout the country is proceeding more slowly than planned. So far new panels of physicians who will supply fee information at regular intervals have been established in only five cities (names still withheld by Labor).

Final decisions have not been reached as to the professional services which will be price-checked. It is known, though, that they will include home and office visits by general practitioners, obstetrical services, certain surgical care, premium costs of prepaid hospital and surgical programs, and a few medicines. In August, while overall consumer price index was dropping for the first time in two years, the "medical care" index rose 0.3 per cent.

Steps Recommended To Curb Staph Infections In Hospitals

On the basis of findings and recommendations of National Conference on Staphylococcal Disease held earlier this month in Atlanta, the following measures are proposed by the Public Health Service to prevent and control hospital outbreaks:

1. Establish infectious control committees in all hospitals.
2. Employ an "infection log" for entering and classification.
3. Screen staff personnel who have boils or who are carriers.
4. Exercise discrimination in use of antibiotics.
5. Store cultures from staph infections.
6. Isolate infectious patients.
7. Take special precautions in nurseries for newborn.
8. Stress training of personnel, intensively and continuously.
9. Strengthen laboratory services and expand research.

Vendor Payments For Medical Care Soaring

In July, 1958, vendor payments approaching $30 million were made to physicians, hospitals, pharmacies and other suppliers of services to men, women and children receiving social security benefits. This is disclosed in latest reports of Social Security Administration.

About $14 million went for health care of the aged. Persons on relief comprised next largest group, $7,087,000. Next in order: Aid to dependent children, $4,335,196; aid to permanently disabled, $2,489,639; aid to blind, $459,289.

States with largest outlays for medical care vendor payments; New York, Illinois, California, Massachusetts.

Chiropractic May Become Bargaining Tool In Veteran Care

At the American Legion's recent convention in Chicago, the forces friendly to chiropractic mustered formidable strength. Seventeen state delegations put in resolutions calling on Veterans Administration to recognize and pay bills of chiropractors to whom beneficiaries may go for treatment, in their exercise of "free choice."

In a roll call vote, supporters of chiropractic marshaled 929 votes, against 2,006 opposing recognition. The 17 states sponsoring resolutions represented an ag-

gregate of 1,201 votes but many delegates abstained from voting or acted independently (total delegate strength was 3,057 at the 1958 convention).

While American Legion endorsement of chiropractic would not be decisive, as far as VA recognition is concerned, the cult has enough supporters in Congress to exploit a boost given by as influential a body as the Legion.

In consequence, this issue may become a bargaining point or a sort of secret weapon tending to forestall or blunt further attacks by AMA on provision of Medical benefits to veterans with non-service-connected disabilities.

Addressing the convention recently, VA Administrator Sumner G. Whittier left no doubt that hospitalization of veterans — two-thirds of whom are n-s-c cases — is at an all-time high and continuing upward. Sample statistics, all breaking old records:

Patients in hospitals — 111,000.

Doctors, nurses and other staff personnel — 147,000.

Sum being spent this year for inpatient care — $717 million.

Sum spent last year for maintenance and repair — $44 million.

Draft Boards May Check Doctor Volunteers' Lag

The prospect is for Selective Service to order up a token number of draft-vulnerable physicians for physical examination. Purpose: To get more of this group to volunteer for Medical Corps commissions and early military duty. Up to the middle of September, only 400 of the current crop of interns had informed the Defense Department of willingness to begin active service next year. This against a quota of 1,000.

The Pentagon had better luck on applications for deferment to embark on residency training. In only two major specialties — otolaryngology and psychiatry — did the demand fall below supply of billets offered by the Army, Navy and Air Force. Note: Although the September 15 deadline is past, interns may still submit requests for commissions and active duty but the longer they wait the slimmer will be their chance of donning uniform on the date of preference.

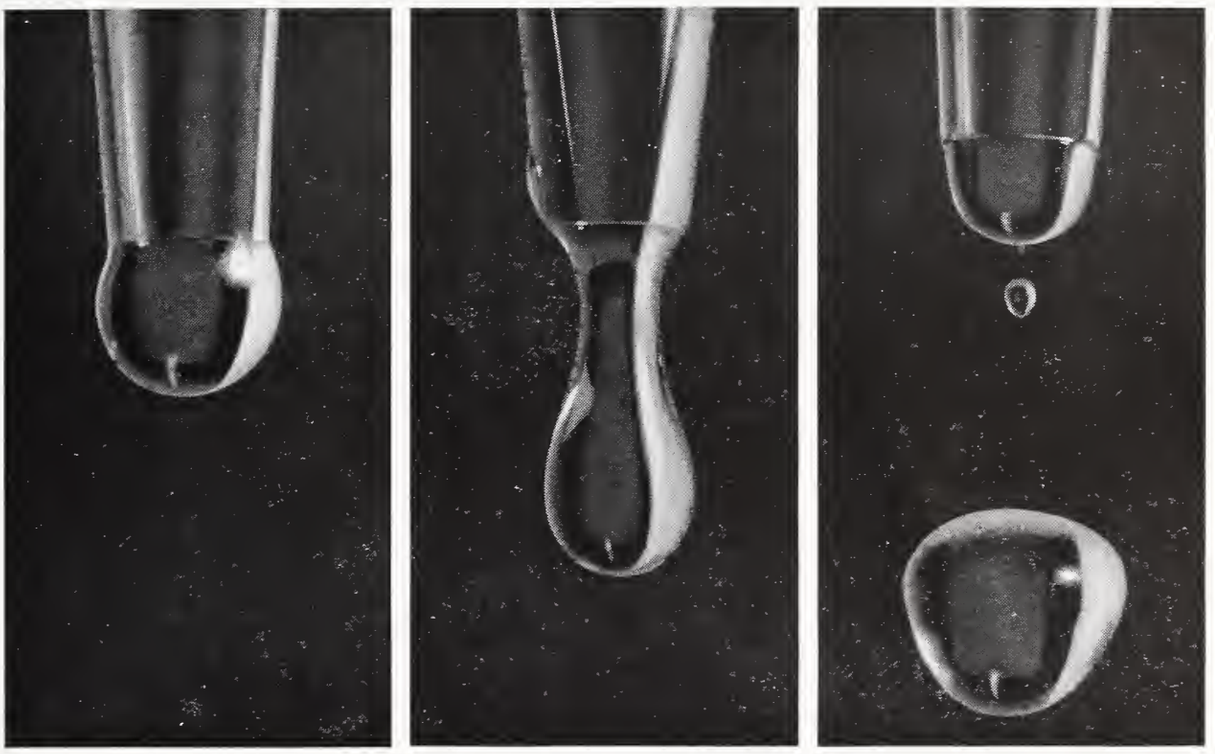
Medical Care Costs To Consumer Continue Rise

Just published by the Bureau of Labor Statistics is its latest quarterly consumer price index, which gives a detailed breakdown of item-by-item fluctuations. The monthly BLS reports, for example, list "Medical Care" as a catch-all category; quarterly summary shows what it consists of, as follows:

1947-49=100	1957 Avg.	March '58	June '58
Medical Care	138.0	142.3	143.9
Medical care less drugs	142.0	145.7	147.1
Medical care less hospital rates & group hosp'lzn.	125.8	128.9	129.7
Physicians' fees	132.5	136.0	137.0
Genl. prac'nrs' fees	134.5	138.3	139.4
Office visit	131.4	134.9	136.5
House visit	133.1	137.5	138.3
Obstetrical care	149.8	152.8	152.8
Surgeons' fees	120.9	122.3	122.6
Appendectomy	119.6	120.0	120.0
Tonsillectomy	124.1	127.3	128.4
Dentists' fees	127.4	130.2	131.3
Optometric exam. & glasses	115.5	116.5	116.8
Hospital rates	187.3	196.4	197.6
Prescriptions and drugs	116.7	120.2	120.8

NOTE: For all items (food, apparel, housing, etc.) the 1957 average was 120.2; for March, 1958, it was 123.3 and for June, 123.7. For July of this year, the "Medical Care" index rose to 144.6, compared with 123.9 for the "all items" index.

Note: Copies of "Strike Back at Stroke," the pamphlet which was sent to each member, are available. A postcard to the office of the Maine Medical Association (P.O. Box 240, Brunswick, Maine) will get you additional copies while they last.



In Biliary Distress

ZANCHOL®

Improves Flow and Color of Bile

Zanchol (brand of florantyrone), a distinct chemical entity unrelated to the bile salts, provides the medical profession with a new and potent hydrocholeretic for treating disorders of the biliary tract.

The high degree of therapeutic activity of this new compound and its negligible side reactions yield distinct clinical advantages.

- Zanchol produces a bile low in sediment.
- Zanchol enhances the abstergent quality of bile.
- Zanchol produces a deep, brilliant green bile, regardless of its original color, suggesting improved hepatic function.
- Zanchol improves the flow and quantity of bile without increasing total bile solids.

Bile with these qualities minimizes biliary stasis, reduces sediment and debris in the bile ducts and discourages the ascent of infection.

For these reasons ZANCHOL has shown itself to be a highly valuable agent in chronic cholecystitis, cholangitis and care of patients following cholecystectomy.

Administration: One tablet three or four times a day. Zanchol is supplied in tablets of 250 mg. each. G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

SEARLE



ANSWERING QUESTIONS

You And Your Blue Shield "Savings Bank"

To understand what is happening today, it is usually necessary to recall what happened yesterday. So Dr. Russell B. Carson, President of Florida's Blue Shield Plan, reminds us that "Blue Shield was born of two parents — economic necessity and self-preservation."

Economic necessity of the patient, who needed medical care, wanted to pay for it himself and to the doctor of his own choice.

Self-preservation for the doctor, from the bankruptcy of uncollectible bills — and from domination by the welfare state.

Dr. Carson, in his address before the 1958 National Blue Shield Professional Relations Conference, compared Blue Shield to a savings bank, in which the patient places regular deposits against the day when he needs money to pay for medical care.

From the doctor's viewpoint, Dr. Carson pointed out, "this savings bank became an extension of our own front offices because it was maintained by our own board of trustees. We do our own collecting and disbursing without deduction of a profit and without interference from any third party telling us how, when, or to whom the disbursement should be made. We doctors had, or should have had, ... control of these savings banks."

But if we doctors are to benefit from Blue Shield, we must take an active, responsible interest in our Plans. And if we want our patients to continue making their deposits in the Blue Shield Bank, then we must demonstrate, day after day, that both Blue Shield and its sponsoring physicians are serving, first and foremost, the welfare of our patients and the public.

The role of the doctor, says Dr. Carson, "must be that he once again become an integral, interested, cooperating part of the idea and ideals of the Plan."

COUNTY SOCIETIES

Androscoggin

President, Paul J. LaFlamme, M.D., Lewiston
Secretary, Donald L. Anderson, M.D., Lewiston

Aroostook

President, Melvin R. Aungst, M.D., Fort Kent
Secretary, Clyde I. Swett, M.D., Island Falls

Cumberland

President, Ralph Heifetz, M.D., Portland
Secretary, Stanley E. Herrick, Jr., M.D., Portland

Franklin

President, Wallace H. Duffy, M.D., Farmington
Secretary, Paul E. Floyd, M.D., Farmington

Hancock

President, William C. Luther, M.D., West Sullivan
Secretary, Russell G. Williamson, M.D., Blue Hill

Kennebec

President, Howard H. Milliken, M.D., Hallowell
Secretary, Arch H. Morrell, M.D., Augusta

Knox

President, David V. Mann, M.D., Camden
Secretary, Parker Heath, Jr., M.D., Rockland

Lincoln-Sagadahoc

President, Stanley R. Lenfest, M.D., Waldoboro
Secretary, George W. Bostwick, M.D., Newcastle

Oxford

President, Norman M. Jackson, M.D., Rumford
Secretary, Harry L. Harper, M.D., South Paris

Penobscot

President, J. Robert Feeley, M.D., Bangor
Secretary, Warren G. Strout, M.D., Bangor
Treasurer, Dexter J. Clough, 2nd, M.D., Bangor

Piscataquis

President, Charles H. Lightbody, M.D., Guilford
Secretary, James H. Johnson, Jr., M.D., Milo

Somerset

President, Richard P. Laney, M.D., Skowhegan
Secretary, Harland G. Turner, M.D., Norridgewock

Waldo

President, Norman E. Cobb, M.D. Belfast
Secretary, George L. Temple, M.D., Belfast

Washington

President, Robert G. MacBride, M.D., Lubec
Secretary, Karl V. Larson, M.D., East Machias

York

President, William B. O'Sullivan, M.D., Saco
Secretary, C. W. Kinghorn, M.D., Kittery

County Society Notes

PENOBSCOT

John F. Radebaugh, Jr., M.D., has left his pediatric practice in Bangor and joined a group of pediatricians in Rochester, New York. He will be associated with the Medical School at the University of Rochester.

Alfonse Telfeian, M.D., has completed his work at the Bangor State Hospital and opened an office for the practice of child psychaiatry in Portland.

Asa C. Adams, M.D., Orono, made a tour of the Scandinavian countries in August and attended medical meetings while there.

Warren G. Strout, M.D.
Secretary

PISCATAQUIS

September 16, 1958

The annual meeting of the Piscataquis County Medical Society was held at Dr. Stitham's camp, Sebec Lake. The following officers were elected for the ensuing year:

President, Charles H. Lightbody, M.D., Guilford
Vice-President, John B. Curtis, M.D., Milo
Secretary-Treasurer, James H. Johnson, Jr., M.D., Milo
Delegate to the Maine Medical Association, Linus J. Stitham, M.D., Dover-Foxcroft
Alternate, Charles H. Lightbody, M.D.
Board of Censors, Francis W. Bradbury, M.D.
Legislative Committee, Albert M. Carde, M.D.

The Councilor for the sixth district, Ralph C. Stuart, M.D., of Guilford spoke on recent council meetings, primarily concerned with changes in Medicare.

The Society voted to accept the application for transfer of John B. Valentine, M.D., formerly of Dover-Foxcroft, more recently of Gardiner, upon receipt of transfer notice from the Kennebec County Society. Odd Nielsen, M.D., of Dexter was a guest at this meeting.

Linus J. Stitham, M.D.
Secretary

Deceased

CUMBERLAND

William H. Bradford, M.D., 133 Coyle Street, Portland, August 21, 1958.

Eugene H. Drake, M.D., 58 Deering Street, Portland, October 4, 1958.

OXFORD

H. Louella Noyes, M.D., 114 Congress Street, Rumford, August 18, 1958.

New Members

WASHINGTON

William C. Rice, M.D., 7 Church Street, Milltown, New Brunswick.

Necrologies

Charles H. Gordon, M.D.
1894-1958

Charles Howard Gordon, M.D., of Portland, died July 28, 1958.

Dr. Gordon was born July 11, 1894 in Ashland, New Hampshire, the son of Charles J. and Sara Gordon. He attended Ashland High School, Bowdoin College and received his medical degree from Bowdoin Medical School in 1919. He did postgraduate work on a fellowship in otolaryngology at the University of Minnesota from 1919 to 1921.

In 1921 he went to Sluder Clinic of Washington University in St. Louis to continue his studies. He worked with an associare in otolaryngology in St. Paul in 1922 and in 1923 he began his practice in Portland.

A member of the American Medical Association, the Maine Medical Association, a past president of the Cumberland County Medical Society and a member of the Portland Medical Club, Dr. Gordon was also a diplomate of the American Board of Otolaryngology, a life-member of the American College of Surgeons and the American Academy of Otolaryngology, and a past member of the New England Otolaryngology Society. He was head of the ear, nose and throat department of Children's Hospital from 1923 until it became part of the Maine General Hospital. He was an associate on the Maine General Hospital Staff until he resigned to become chief of otolaryngology at the Maine Eye and Ear Infirmary.

Dr. Gordon was a member of Woodford's Congregational Church, Portland Country Club, Cumberland Club and the Portland Rotary Club. He was a 32nd degree Mason, a member of Prospect Lodge, AF&AM, Ashland; Greenleaf Chapter, RAC; St. Alban Commandery, Knights Templar; Scottish Rite bodies, Valley of Portland; Put Stevens Court of the Royal Order of Jesters; Kora Temple Shrine and the Portland Shrine Club.

Surviving are his widow, Pauline Drew Gordon; a daughter, Mrs. Ruth Anne Eborn, Portland; a brother, Richard S. Gordon, Holderness, New Hampshire; and two grandsons.

John H. Moulton, M.D.
1889-1958

John Henry Moulton, M.D., of Rangeley, died July 31, 1958.

Dr. Moulton was born October 25, 1889, in Limington, Maine, the son of John F. Moulton, M.D. and Martha Parsons Moulton. He graduated from Limington Academy, from Bates College in 1910 and received his medical degree from Bowdoin Medical School in 1914. He began the practice of medicine in Litchfield in 1914, moved to Jonesport in 1915, to Stratton in 1922 and in 1925 settled in Rangeley.

He was a member of the American Medical Association, the Maine Medical Association and the Franklin County Medical Society. He was a member of the Congregational Church; a charter member of the Order of the Eastern Star at Rangeley; a member of the Odd Fellows, Knights of Pythias, past master of Jonesport Lodge AF&AM, Rangeley Chapter, RAM, and Commandery at Machias.

Dr. Moulton is survived by a daughter, Mrs. Martha Kirby, of Coastamesa, California, and two sons, John Jr. of Rangeley and Robert G. Moulton of Portland of his first wife, Mrs. Molly Given Moulton, who died in 1918; and a daughter, Mrs. Barbara Eastwood of Rangeley of his second wife, Mrs. Helene Gray Moulton, who died in 1956; and ten grandchildren.

Frank D. Weymouth, M.D.
1873-1957

Frank D. Weymouth, M.D., of Brewer, died November 1, 1957.

Dr. Weymouth was born in Howland, Maine, September 13, 1873, the son of Albert H. and Mary E. Weymouth. He graduated from Lee Academy, Higgins Classical Institute and received his medical degree from the University of Vermont College of Medicine in 1898. He did postgraduate work at Massachusetts General Hospital.

He began his practice in Howland in 1900, later moved to Millinocket and then to Charleston. In 1925 he went to Brewer where he remained until his retirement.

Dr. Weymouth was an Honorary Member of the Maine Medical Association and received his fifty-five year pin in 1953. He was a member and past president of the Penobscot County Medical Association.

He was a trustee and treasurer of Higgins Classical Institute, a charter member of the Brewer Kiwanis Club, Past Master of the Olive Branch F & AM of Charleston and Past District Deputy Grand Master.

Surviving are his widow, Mrs. Martha D. Weymouth of Brewer, his son, Raymond E. Weymouth, M.D., of Bar Harbor; a step-son, John D. Dority of Brewer; and four grandchildren.

News and Notes

Huddilston Medal Presented to Past MMA President

Frederick Thayer Hill, M.D., Waterville physician and Medical Director of Thayer Hospital, was honored recently by the Maine Tuberculosis Association which awarded to him its Roselle W. Huddilston Medal "for distinguished service and outstanding contributions in the field of health to the people of the State of Maine."

The Huddilston Medal, the first award of any kind to be established in Maine to honor health leaders and recognize their work, is named for Mrs. John Homer Huddilston of Orono, an outstanding volunteer health worker and leader in the state for more than 40 years. It is given in recognition of contributions within the total field of health which is in keeping with the tuberculosis association's concept that it should be interested in all aspects of health improvement for all are important and they all contribute to tuberculosis control. The medal is not limited to physicians and is primarily awarded in recognition of services rendered above and beyond the call of a person's ordinarily defined responsibilities and duties.

This year's award is the second to be made, the first medal being awarded last year to Mr .Phillips Merrill Payson of Portland, a businessman and volunteer worker with a distinguished record of service, leadership and philanthropy in the health field.

The medal was presented to Dr. Hill, at the annual membership meeting of the Maine Tuberculosis Association, by Thomas A. Foster, M.D., Portland, chairman of the Huddilston Medal Committee. Dr. Foster, in a citation describing Dr. Hill's accomplishments in medical service to the people of this state, emphasized the medal winner's constant efforts during more than forty years of practice in this state to improve throughout the state the quality of medical care and the elevation of standards of medical care.

Among the many specific contributions listed about Dr. Hill in the citation were service as president of the Maine Medical Association (1936-1937), the Maine Hospital Association (1944-1946), the New England Hospital Assembly (1954), and of several national technical organizations in the fields of otolaryngology and broncho-esophagology.

Also noted was the recipient's work in establishing the Hard of Hearing Clinic, the Adult Educational Program at Colby College and his many activities connected with the founding and development of Thayer Hospital.



Frederick T. Hill, M.D., left, of Waterville, receives the coveted Huddilston Medal from Thomas A. Foster, M.D., right, of Portland, chairman of the Huddilston committee.
(Lou Moore Photo)

Laboratory Dedicated to Mortimer Warren, M.D.

The Maine Medical Center honored Maine General Hospital's first pathologist, Mortimer Warren, M.D., by dedicating its remodeled and enlarged laboratory in his name.

Dr. Warren became the first full-time pathologist at the Hospital in 1922 and was still active at the time of his death in 1944.

The medical staff in donating money to help remodel the laboratory voted to name it in his honor for his outstanding service to the hospital, his profession and the people of Maine.

Maine Tuberculosis Association

Howard L. Cousins, Bangor, was elected president of the Maine Tuberculosis Association at the conference of the New England Tuberculosis Association in Rockland.

Among the other officers elected were: C. Harold Jameson, M.D., Rockland, president-elect; Aibert Aranson, M.D., Portland, first vice-president; and Brinton T. Darlington, M.D., Augusta, second vice-president. Dr. Darlington was also elected president of the Trudeau Society of the Maine Tuberculosis Association.

Maine Physician Speaker at American Academy of General Practice

Paul C. Marston, M.D., Kezar Falls, addressed the state officers conference of the American Academy of General Practice in Kansas City, Kansas, on September 21.

Dr. Marston, attended the meeting and a symposium on infectious diseases as president of the Maine Chapter of the Academy.

Maine Medical Center

Richard S. Hawkes, M.D., was re-elected president of the medical staff of the Maine Medical Center.

Eugene C. McCann, M.D., was elected vice-president; Edward G. Asherman, M.D., was re-elected secretary and Stanley E. Herrick, Jr., M.D., was elected for a three-year term on the executive committee.

Announcements

Maine Chapter
American College of Surgeons
Fall Clinical Session
Maine Medical Center
Portland, Maine, November 5, 1958

PROGRAM

10:00 A.M. Case presentations by Interns and Resident Staff of Maine Medical Center.

1:00 P.M. Luncheon — Hospital dining room
Meeting of Council of Maine Chapter

2:30 P.M. "Acute Trauma to the Hand," by J. Edward Flynn, M.D., Traumatic Surgeon, Boston City Hospital, Boston, Mass.

Profession Cordially Invited To Attend

New England Postgraduate Assembly
November 4, 5 and 6, 1958
Statler Hilton, Boston, Massachusetts

PRACTICAL COURSES FOR PRACTICING PHYSICIANS
Hospital Clinics in Boston Hospitals — Panel Discussions —

LOYALTY Our service for GROUP

PHYSICIAN'S LIABILITY

and

GROUP ACCIDENT & HEALTH COVERAGE

is as near as your phone

CALL US FOR ANY TYPE OF COVERAGE

H. F. Scott
Wm. P. Baeslack

H. F. SCOTT AGENCY
Phone 7723

61 Main Street
Bangor, Maine



Luncheon Symposia — Clinicopathological Conferences — Lectures — Medical Films — Exhibits — Ladies' Program — Entertainment.

Open to all physicians. Registration fee: $10. For further information write: Dr. Kenneth W. Warren, *Chairman,* New England Postgraduate Assembly, 22 The Fenway, Boston 15, Massachusetts.

The Assembly is sponsored by the Massachusetts Medical Society in cooperation with the State Medical Societies and State Chapters of the American Academy of General Practice of Maine, New Hampshire, Vermont, Connecticut, Rhode Island and Massachusetts.

Medical Seminar Cruise Sponsored by the New York University College of Medicine

All practicing physicians are welcome to attend a cruise to the Caribbean visiting San Juan, St. Thomas, Ciudad Trujillo, Cap Haitien and Nassau, aboard the Transatlantic liner, M.S. Italia. The cruise sails from New York, February 21, 1959 and will continue for 14 days at a cost of $340 and up (No U. S. Tax). The fare includes: transportation, stateroom, meals, and ship as hotel with meals in port.

For information relative to itinerary and reservations write the Allen Travel Service, Inc., 565 Fifth Avenue, New York 17, New York.

For further medical details, write: William N. Hubbard, Jr., M.D., Associate Dean, New York University College of Medicine, Room 164, 550 First Avenue, New York 16, New York.

For information as to the deductibility for income tax purposes, of the expenses of professional postgraduate education, see Journal of American Medical Association of July 28, 1956, page 1260.

Bahamas Conferences

This coming winter, there will be three Conferences: The Sixth Bahamas Medical Conference, November 28th until December 18th; The First Bahamas Surgical Conference, December 29th until January 17th; The Serendipity Session, January 18th until January 31st, 1959.

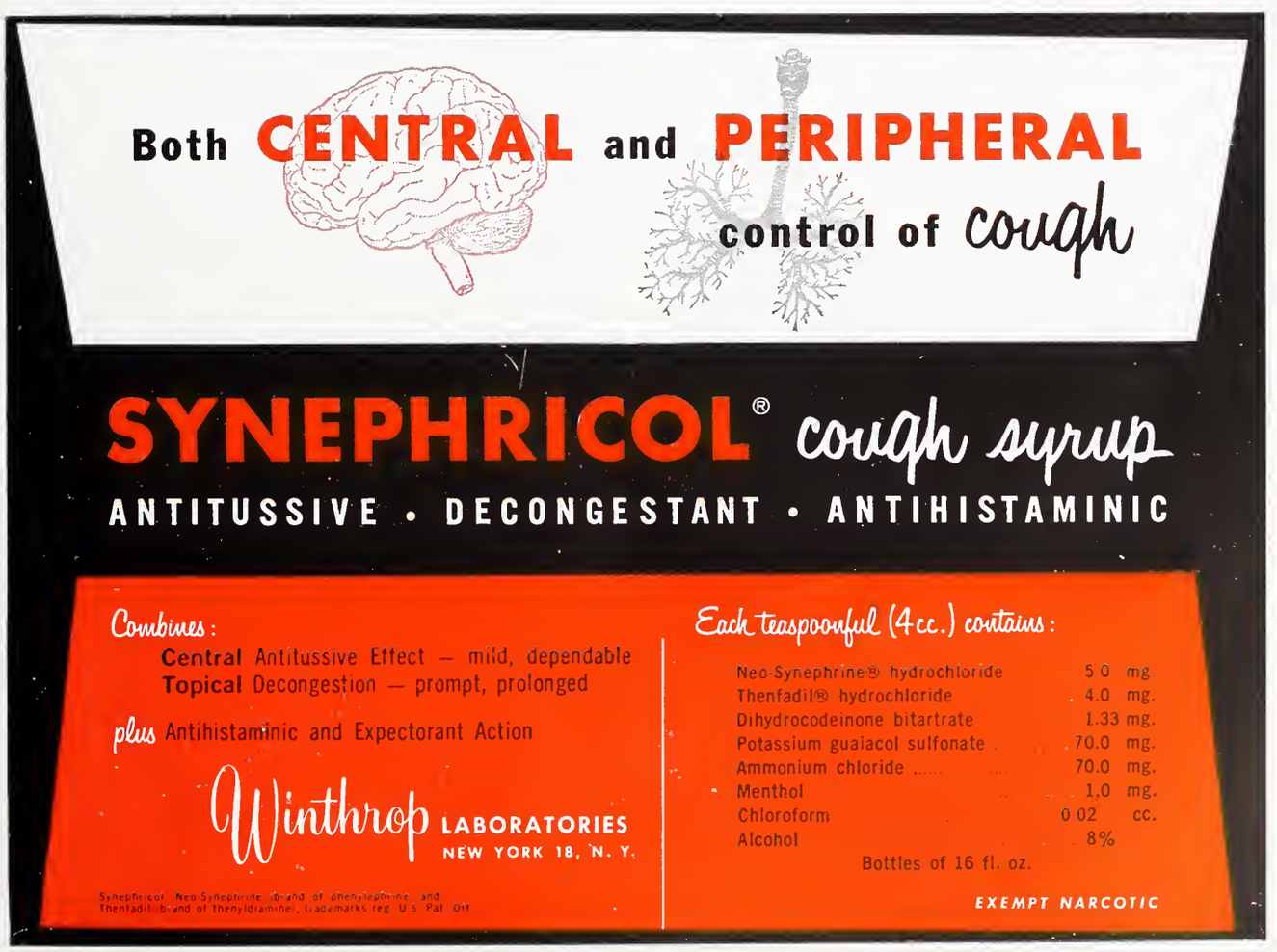
The British Colonial Hotel where all sessions will be held, has made it possible for participants and their parties to avail themselves of the facilities of the fully redecorated hotel at reduced rates, PROVIDED THAT RESERVATIONS ARE MADE BY WRITING DIRECTLY TO BAHAMAS CONFERENCES, P. O. Box 4037, Fort Lauderdale, Florida, Telephone Jackson 3-7303 at Fort Lauderdale, Florida, and NOT through agents.

An official certificate of attendance will be issued to participants in the Conferences.

When making hotel reservations a check made out to "Bahamas Conferences" for $75.00 covering the registration fee should be included. It is advisable to make reservations NOW as the number of rooms is limited.

American and Canadian citizens do not require passports. There are no tropical diseases in Nassau. The temperature will be around 70° F.

Further details may be obtained by writing: Dr. B. L. Frank, Organizing Physician, 23 East 79th Street, New York 21, New York.





LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY,
Pearl River, New York

International College of Surgeons

The International College of Surgeons will hold its Southeastern regional meeting in Miami Beach, January 4-7, 1959. For information, write: Harold O. Hallstrand, M. D., 7210 Red Road, South Miami, Florida, Chairman.

Mid-Atlantic Regional Meeting

The United States Section, International College of Surgeons, will hold its Mid-Atlantic Regional Meeting at the Homestead, Hot Springs, Virginia, November 17-18.

The scientific program will consist of 10 papers, two panels and a sound movie in color. These will cover a wide range of subjects, with speakers from all parts of the country. A banquet will be given on the evening of the first day.

U. S. Department of
Health, Education, and Welfare
Public Health Service
National Institutes of Health
National Institute of Mental Health
Bethesda 14, Maryland

September, 1958

The National Institute of Mental Health is offering grant support for a training program for general practitioners and other physicians engaged in the practice of medicine other than psychiatry. Funds are available during the current year (fiscal year 1959) for these grants and training institutions may submit applications at any time.

The program has two purposes:

I. To foster the development of postgraduate training in psychiatry for the practitioners who wish to increase their psychiatric knowledge and skills in order to be able to deal more effectively with the emotional aspects of illness generally and in order to play a more effective role in the treatment and prevention of mental illness. These courses will be designed for the physician who plans to continue practicing in his own field.

Grant support is being offered to medical schools, hospitals, clinics, and medical and psychiatric societies for the development and expansion of such postgraduate training in the form of courses, institutes, and seminars. This support does not include fees, subsistence, or travel for the physicians who attend.

Support of this type of training may be for a particular professional group over a given period, or for training offered regularly as part of the postgraduate curriculum of a medical school, hospital, or clinic, or as part of the educational program of a medical or psychiatric society.

Physicians interested in obtaining this type of training should apply to medical schools, hospitals, clinics, and medical or psychiatric societies which have, or are developing, such training opportunities.

II. To provide support at an adequate level for psychiatric residency training for physicians in practice who wish to become psychiatrists. Training stipends up to a maximum of $12,000 a year are available. The level of payment will be determined by the training institutions who will also make the award to the individual physicians. The National Institute of Mental Health will make awards of grants for this purpose to training institutions and not to individuals.

Physicians interested in support for this type of training should apply to training institutions which are approved for psychiatric residency training.

Inquiries about the program should be sent to Dr. Seymour D. Vestermark, Chief, Training Branch, National Institute of Mental Health, National Institutes of Health, Bethesda 14, Maryland.

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, November, 1958 | Number 11

The Problems Of Health Insurance From The M.D. Point Of View*

Albert Aranson, M.D.

In considering health insurance from the physician's point of view, I would like to limit my remarks to the Blue Shield plan. From my point of view, the commercial contract with which I have no quarrel as a physician, involves no real commitment on the part of the physician, and is simply an arrangement between the patient and the company. It is very similar to automobile or life insurance.

In addition, the commercial companies are sold on the basis of experience rating, the so-called "pick and choose." The Blue Plans, on the other hand — and this is to their credit — are on the basis of community rating experience, which does not take into account the poor risk of the groups insured.

The Blue Shield plan costs the patient only about 10 per cent for administration, compared to about 40 per cent for the commercial companies. In other words, there are considerably more returns to the physician theoretically under Blue Shield than in the commercial plans.

Also, the Blue Shield, or "Doctors Plan," so-called, involves both direct and indirect participation by the physician in a variety of ways, by agreement to accept as full payment fees for certain income groups, and it so appears eventually perhaps for all groups.

They will underwrite the plan, at least in this State, by agreeing to pro-rate fees if necessary, if the plan gets into financial trouble. And in addition, and this is no small contribution, as many of you will realize, by serving without financial recompense on various committees required to administer the medical aspects of the plan both fairly and properly.

A number of reasons have been offered for the existence of Blue Shield.

1. Originally to care for the low income group.
2. To prevent government control, or socialized medicine.
3. Good public relations.
4. The unions want it, although in 1958 it seems the unions are not satisfied with Blue Cross-Blue Shield and would prefer to run the whole show themselves.

Probably the best and most comprehensive reason today is that most people are buying everything on the installment plan. Mr. and Mrs. Patient feel compelled to pay for their major medical expenses in the same fashion, and in fact such services have become so costly that for the average patient they must be budgeted for in this way.

This is an economic reality with which we as physicians must comply and we must recognize it.

Now a plan such as Blue Shield and Blue Cross does not spring up fully developed over night, but gradually over many years and with many growing pains. A brief outline of its history forms a necessary background for evaluating this discussion.

About ten years ago, it was felt by the physicians of this State, that insurance should be offered the low income group, to cover the physicians' fees for the hos-

*Presented at the 105th Annual Session of The Maine Medical Association at Rockland, Maine, June, 1958, as part of the panel discussion, "Health Insurance Is Here To Stay."

pitalized patient who already had Blue Cross or hospital coverage.

The commercial companies were approached by the Maine Medical Association, but they could not or would not cover this group whose family income was less than $3,000 a year, or $2,000 for an individual.

Therefore, the Maine Blue Cross was asked to administer the plan with the doctors underwriting its cost, because no reserve fund existed at the time to support the plan.

This was the etiology of growing pain No. 1. An expanded Blue Cross-Blue Shield Board was formed, with the physician members in the minority, the reason given that the doctors had nothing to do with the Blue Cross part of it, a fallacious type of reasoning as I shall point out later.

Two years ago, almost simultaneously, came growing pains No. 2 and No. 3. A plan covering the higher income group up to $6,000 for a family and $4,000 for an individual, with service or complete payment coverage, was brought forth. Its origin is still veiled in obscurity, but I can only repeat the reasons given for its necessity, as follows:

Blue Shield needed it because these people had better insurance experience, to wit, fewer illnesses, fewer children. They were the cream of the insurance crop, which the commercial companies were said to be skimming off, leaving the lower income group with more illnesses and pregnancies to be taken care of by the Blue Plan.

We were told the doctors wanted it. Why? I don't know, because it is the direct competition with private enterprise which the physicians favor.

Finally we learned that the $6,000 limit was the limit asked for by the unions, which had activities in the different parts of the country. Therefore it would bring our plan into line with others, easing the way for group contract action with the companies.

Pain No. 3 was inflicted by the House of Delegates of the Maine Medical Association two years ago when it approved a resolution that the Health Insurance Committee was to give special consideration to the medical or non-surgical specialists in the new plan being considered: the high income group. This was in recognition of the fact that the medical specialists' services were not covered by the fee schedule, and a specialty must have economic recognition to survive.

For the time being this pain has been eased by a tentative and probably temporary arrangement by which services rendered by medical specialists will be given individual consideration under a special section of the new contract entitled "Medical Specialties." These claims will be reviewed by a Committee of Medical Specialists, and total claims will be limited by a ceiling of 3 per cent of the total payment made.

Pain No. 4 is apt to make itself known in the near future, now that the previous major disabilities have subsided.

A recommendation was made by the Health Insurance Committee that in view of the continued inflation, the medical payments under Plan *A,* the low income group, be raised from $3.00 to $4.00 a day, and a $5.00 consultation fee be established. In the noise and turmoil of the birth of the new plan, this recommendation was conveniently ignored by the administration of Blue Shield. It was a most reasonable request, as I will show, and cannot be considered a closed issue.

Most differences of opinion about Blue Plans are not concerned with basic concepts but with details and the mode of operation.

Now this institution is with us to stay. Let no one question that. It has definite advantages, but let us not make of it a Sacred Cow which is inviolate. Change and adaptability must be its greatest assets.

After a short but stormy service on the Board of Directors of the Associated Hospital Service, I could easily spend the morning here picking it apart, showing you its faults and deficiencies. (And what organization doesn't have these, including our own.) But this would avail us nothing unless by illustrating these defects in a constructive way, we can demonstrate what this plan could and should be, both to the patient and the doctor.

I would offer you eight axioms, Rules of Reality, which from the physician's point of view will keep this common patient of ours not only free of pain, in the best of health, ready at all times to give the best of service to our community, and to give birth without undue labor pains to whatever plans are needed in the years to come.

1. This Plan must encourage by its principles, the highest type of medical practice as it exists today, and must pay for it.

The insurance administrator is by tradition a conservative, wedded to his actuarial tables, and by nature resistant to change. Insurance geared to medicine as it was practiced thirty years ago, can block the functioning of the modern physician just as effectively as if he were denied the use of all the newer forms of diagnosis and treatment which have also developed in this time.

If the services of consultants and care by specialists, for example, is necessary for the hospitalized patient, ways must be and can be found to provide and pay for them.

This Plan under close supervision by both physicians and administration, can safely experiment. As previously mentioned, one such trial balloon is already afloat.

2. The fee schedule and premiums must in some way be tied to a cost of living index, or both fees and coverage will soon become hopelessly inadequate.

A good example of this is the fee for medical care which I have just mentioned under the old

Plan *A,* $3.00 a day, which has been pegged at this level for the past seven or eight years despite steady inflation. Since the wages of the people in this income group by definition do not rise, it might be argued that the increase in premiums to produce a higher fee would burden the subscribers with added hardship. The actuarial tables show, however, that an increase to $4.00 a day would cost the subscribers only 20 cents per month per family, or less than the cost of a package of cigarettes a month.

The only fair and realistic approach would be to review the fee schedule every two or three years at the most. This provision, once included in the contract, would obviate the need to rewrite the contract each time such adjustments are made.

3. It must be the physician's Plan in fact, as well as theory. The behavior of the Plan's administration shows very clearly that the administration of Blue Shield does not consider it, the doctor's Plan.

4. It must have the widest coverage in respect to numbers and services offered. Just as our medical and surgical services are constantly being expanded by new methods, so must the ability to pay for them be financed.

The aged must be covered, perhaps by some method of additional payment during their productive years. If this had been done even as recently as two or three years ago, we might not be confronted with the present Bill in Congress. We cannot say to them at sixty-five, your insurance no longer exists. The physician will find if we continue to do this, our Federal Government will provide the care, far less efficiently and at much greater cost to the community.

The physician can sell this Plan far more effectively than any sound truck, TV or radio advertising; that is, if he is first sold on its value and desirability.

5. The plan must respect the dignity of the individual practitioner of medicine, without which it could not exist.

This is difficult to pin down in so many words, but it involves the manner in which individual physicians are handled by the administrative staff of the Plan.

Many physicians have complained to me of the discourteous if not hostile fashion in which their inquiries are answered by the management. This is no way to treat stockholders, and most certainly we are very generous stockholders.

6. The Plan must allow self-discipline by the doctors, and not try to impose it upon them. Two examples of this come to mind.

Plan *A* originally paid for medical benefits starting from the first day of hospitalization. After a year or so of experience with this, it became apparent that there was over-usage of the order of 150 per cent, most of it occurring in one limited area of the State. The whole State was penalized by excluding payment for the first three days. This could easily have been handled by responsible physician leaders in the particular area, and in fact this was done, but the three day exclusion persisted.

Under the new higher income Plan, again the administration wanted to impose the first three day exclusion, but was prevailed upon to allow us to regulate our own household.

Three years ago it became apparent that some additional payment should be made for the care of the critically ill patient who needed prolonged or special attention above the routine. A maximum payment of $25.00 was set up to be administered by a committee of three physicians. The Plan's actuarial consultant, who comes from New York City, was horrified at this, and predicted it would milk the Plan dry. What he did not realize was that although we are a large State geographically, we are a very small community medically.

It is far easier to remain and act anonymously in the City of New York, than in the State of Maine. As I look around the room, I see many familiar faces, from Sanford to Fort Kent. These faces we know, and I think we can trust. If we can't, we are certainly in trouble.

As you all know, the consultant's fears were in vain, and this feature of our Plan has been one of its best. Last year this item "milked" the Plan for a grand total of about $800.00. This Committee of which I am a member, encountered very few attempts at milking. These were very apparent to us as physicians, but could hardly have been detected by laymen for obvious reasons.

That shows how Blue Shield can and must be prepared to do things that no commercial company would dare attempt.

7. The Plan must not be thought of as separate from Blue Cross. We have been told again and again, and this was the reason for our minority representation on the combined Board, that we as physicians are not concerned with the administration of Blue Cross; in very blunt terms, this is none of our business.

Nothing can be further from the truth. We decide when and for how long a patient should be admitted to the hospital; what tests should be done; what x-rays should be taken; what other procedures should be performed; what drugs and treatment should be given; and in many communities we have much to say about the actual administration of the hospital. Who else but the physician can control over-usage of Blue Cross and bring about efficiency?

Let me give you one example. There are many

Continued on Page 408

The Health Insurance Story From The Insurance Industry's Point Of View*

HAROLD J. WATERS**

That "Health Insurance is here to stay" is positively true. To say "the practice of medicine is here to stay" is an equally positive statement. However, to say that *voluntary* health insurance and the *voluntary* practice of medicine is here to stay would be expressing a sincere hope which is filled with if's.

Certainly, we in the insurance business know that our opportunity to serve the American public will continue only so long as the practice of medicine in America is private and free. It is also apparent that physicians increasingly realize the extent to which the private practice of medicine depends upon the success of voluntary health insurance.

Since more than 70 per cent of the American people have accepted voluntary health insurance as the financial mechanism to meet some of the cost of medical care, we share with you the tremendous responsibility for the economic and proper operation of the whole health care system.

The most important relationship of voluntary health insurance is, of course, with the general public. Its members are our customers. In a democratic system, the wishes of the majority will be reflected in the kind of laws that regulate us and the taxes to which we are subject. The public is free to give us their patronage or to withhold it. One of the fascinating, if occasionally troublesome, characteristics of health and health insurance is that it is a subject on which every person has an opinion. A recent Gallup survey concluded that health is of greater interest to people generally than any other single subject. Newspapers, recognizing this, devote tremendous space to health topics. Six New York City and Washington, D. C. papers in a 15-week period carried over a thousand articles, some 14,000 inches on health matters. National magazines, as well, publish an equal quantity of material. The *Saturday Evening Post* has just completed a series of three articles titled "The Big Fight Over Health Insurance." All of this has made the general public susceptible to the appeals of minority pressure groups who are most vocal about their medical and economic nostrums.

It is particularly important to the preservation of the private practice of medicine and voluntary health insurance that Americans generally be disabused of some of the mistaken concepts now too widely held. The broad and vigorous educational program needed to achieve this result must be undertaken by all of the partners in our system of voluntary health care. We need to resell the concept of private medical practice and can do so by contrasting it with the inferior quality of care that is a seemingly inevitable result of government-dominated medicine. We need to debunk the notion that government can provide health care or finance health care more economically than can private enterprise. Government care could be cheaper only if the quality of the care is adulterated, and even with inferior quality the cost of care would be higher. It is a notorious fact that when government undertakes to do what can be done by private enterprise, costs always rise.

Sir William Beveridge estimated that the cost of the United Kingdom's National Health Service would level off at 170,000,000 pounds per annum in 1965. Instead it now stands at nearly 700,000,000 pounds, in spite of many restrictions introduced to reduce its cost, and all signs point to a steady further increase with no limit in sight.

The American people have in the past been strongly influenced by our tradition of personal initiative and independence. They forthrightly supported Congress in its rejection of the National Health Program proposed in the Wagner-Murray-Dingell Bills of the Truman administration. But their sophistication in these matters has not extended to an appreciation that socialized medicine can be foisted off on them a little bit at a time. Witness in this connection the apparently popular approval of the inclusion of permanent and total disability benefits in the Old Age and Survivors' Disability Insurance System, the continuance of free medical care for veterans suffering from non-service connected disabilities, and the dozen other programs through which government is absorbing more and more responsibility for the health care of a larger and larger part of the population.

Typical of proposals for further socialization of health care is the so-called Forand Bill, now pending in Congress. It would increase present OASDI benefits, expand the taxable wage base from $4,200 to $6,000 per annum, and pay most hospital, surgical and nursing home expenses for all who are eligible to receive Old

---

*Presented at the 105th Annual Session of the Maine Medical Association at Rockland, Maine, June, 1958, as part of the panel discussion, "Health Insurance Is Here To Stay."

**Research Consultant, Group Health Insurance, John Hancock Mutual Life Insurance Company.

Age and Survivors' benefits. No matter what appealing emotional gloss may be put upon this proposal by its supporters, it would effectively destroy the minimum floor-of-protection theory of the Social Security system and would establish an out-and-out program of socialized medicine for a substantial and growing segment of our people. As is invariably the case, the proponents' cost estimate of an initial one billion dollars per year to provide the enumerated health care benefits, is grossly inadequate. Independent actuarial studies indicate that first year costs would be at least twice what the proponents claim, and this would be but a beginning.

It is true that much of the political appeal for these programs lies in the "something for nothing" delusion which is in reality nothing but a morally indefensible shifting of today's costs to our children who will be tomorrow's taxpayers. It is necessary in our relationship with the general public to do more than we have to inform them about the nature of voluntary health insurance and its essential role in financing the costs of private practice and voluntary hospitals. Although more than 800 insurance companies and some 300 service plan type insurers are carrying the message of voluntary health insurance to the public through nearly a third of a million field representatives, to many the insurance technique still seems surrounded with a mystery. They fail to realize that insurance creates no wealth; that it is simply a device for spreading the cost of ill health across the entire insured group rather than allowing it to fall with crushing impact upon the relatively few who suffer financially crippling illness.

Greater public understanding is needed of the reason why voluntary health insurance must employ some reasonable controls against over-utilization and abuse. The contingency insured against by voluntary health insurance is peculiarly susceptible to subjective bias. The occurrence and extent of loss is far less easily demonstrated than in the case of life insurance where death is objectively demonstrable, or in fire insurance where all can see that a loss has occurred. The subjective influences in health insurance, which we in the business call the moral hazard, can make successful sharing of the risk of ill health impossible unless restrained by the kind of control that always aligns the self-interest of the insured with that of the insurer. It has been well said that it is not possible to underwrite an insurance benefit successfully unless the enjoyment of the benefit is incompatible with the desires of the insured. These controls against abuse must take the form of making disability financially unpalatable. Particularly in times of business recession, barring economic safeguards in the insurance contract, some insureds would be tempted to malinger.

The insurance business needs to do a better job of explaining the rationale of such provisions as the deductible and coinsurance. All of us are familiar with the deductible provision in automobile collision insurance and accept it readily. The purpose of a deductible in health insurance, like that in automobile insurance, is to eliminate from coverage the first few dollars of loss. It is well known, particularly to you doctors, that each year every one of us sustains some expense because of a scratch or sniffle, or loses a day or two from work because of minor disability. If insurers attempt to provide benefits for these trifling, recurrent and seemingly inevitable losses, they must collect an insurance premium adequate not only to pay the benefit involved, but also the proportionately heavy expense of administering these small claims. This is a dollar-swapping type of coverage that is patently uneconomic. Yet it is amazing how widespread the popular demand is for benefits that cover the first dollar of expense and the first day of disability.

In their effort to make voluntary health insurance more effective and to abate the inflation of health care costs, insurers whether of the indemnity or service type, need to emphasize the importance of the deductible provision. In the process they will conserve the insurers' premium dollar for the purchase of more adequate benefits against the really insurable loss of expensive, serious and bankrupting illness.

In the same vein, there is much to be done in educating the general public to the necessity of an economic control against extravagant treatment. That is provided by the coinsurance clause which requires that the insured bear a part of every element of the expense incurred in his care. It checks a tendency to "shoot the works" if an insurance company is bearing the entire expense of treatment. By abating extravagance and over-utilization, the coinsurance provision helps keep losses in line and enables insurers to issue such broad, all-inclusive coverage as major medical insurance at a premium that is within the reach of most people.

In all our problems with the general public, doctors, hospitals and insurers have available but one really effective course of action — it is widespread public education. In a democracy the will of the majority ultimately prevails. For public decisions to be well-taken, they must be based on informed opinions. I fear that most of our concerns with public attitudes today are directly traceable to a failure by business and professional men to give the public effective leadership in its thinking. We have been too preoccupied, too disdainful of political participation, too supine in our resistance to socialistic ideas. It is late in the day but we must bestir ourselves and become as adept at propaganda as those who by design or simple awkwardness would destroy the American system.

Doctors, individually and collectively, can make a significant contribution to better public understanding of the issues in voluntary health insurance. The doctor is a respected voice in his community. His influence among his patients extends beyond purely medical matters.

Health insurers through their representatives everywhere can and are doing an educational job. We have

organized the Health Insurance Institute to be our public relations arm answering the general public's questions about the how, why and what of voluntary insurance. Shortly the Institute will commence a program of magazine advertising that should add materially to the popular understanding of our business.

There are special publics with whom a satisfactory relationship is especially important to voluntary health insurers. Most prominent among them are, of course, the doctors and hospitals. The inherent partnership of medicine, the hospitals and the voluntary insurers certainly argues for their close cooperation.

Though our broad objectives are entirely the same, past failures to know as much about each other as we should, have given rise to irritations which, happily, now seem to be abating. I am sure that many doctors have had questions about the impact of health insurance on their practice. If doctors accept the fact that most of their patients must rely today on some third party mechanism to help them defray their health care costs, then the physicians' concern is whether the insurer exerts an adverse effect on the quality and quantity of the medical care.

It is difficult to determine the extent to which the existence of insurance has influenced the quantity of professional care. Undoubtedly, insured patients seek earlier treatment and more adequate treatment because their insurance eliminates or minimizes any real financial obstacle. Because voluntary health insurance is purely a financial arrangement, it is doubtful that it has had any unfavorable effect on the quality of the care provided. Certainly the traditional patient-physician relationship is not adversely affected under insurance arrangements in which all financial aspects of the coverage are the concern of the insured and insurer and all medical relationships remain exclusively between the patient and his physician.

If occasionally you are tempted to be critical of benefits that are inadequate to meet the expenses of a particular case, please remember that the fault may not lie entirely with the insurer. Insurance companies want to sell adequate amounts of protection, but what the insurer can sell depends on the willingness and ability of the customer to buy. We know of many instances in which physicians are critical of a specific schedule of surgical or medical benefits which his patient may have in his particular policy. Occasionally we are told by physicians that this schedule is inadequate; and he should not be expected to serve his patient for such fees. Frequently we are asked — why can't your company be more realistic and increase these allowances?

Most doctors know that such schedules are not intended to set his fee, but are designed only to help the insured patient to pay his bill. The insured has purchased the protection which he can afford, or is willing to pay premium for. In doing this he naturally accepts his individual responsibility for whatever difference there may be between his doctor's usual charges and the sum payable under his insurance policy.

As you know, there are numerous levels of coverages offered by insurers to the public; but we can sell only what they are willing to buy.

Physicians can avoid patient complaints and fee collection problems in this area if they understand and are willing to explain this to patients.

Considerable progress has been made by insurers in offering coverages without specific schedules in the newest major medical expense plans. Varying forms of these coverages are being sold by more and more companies, and many experts predict that these plans will be the coverages of tomorrow and will replace most of the current basic forms.

Briefly, we now say that we will pay a predetermined part, usually 75 per cent or 80 per cent of all necessary and reasonable charges for services and supplies recommended and approved by a legally qualified physician or surgeon, subject to a small deductible of $25.00 or $50.00. Total benefits for such charges may be as high as $10,000, depending upon the amount purchased.

As you will readily see, this approach is designed to give the physician freedom to choose the type of treatment he feels his patient requires. It will relieve pressures by patients for one type or place of treatment rather than another. It will lessen the demand for unnecessary hospital confinements. It will help preserve the individual freedom of the physician to act in the best interests of his patient in prescribing the care and services he considers necessary and reasonable.

This is a skillful rearrangement of the public's premium dollar which will provide protection against the large serious medical care expenses, as well as providing coverage for the less serious conditions. It will avoid dissipating funds on small claims and administrative expenses.

This is the fastest growing coverage in the country today, and already about 13 million people have it in one form or another. This new concept has attracted widespread interest, and many physicians believe that it will be the solution to many of our mutually complex problems in financing medical care costs. Many group and individual buyers are watching its growth and the patterns which it develops. Some consider that it will have an inflationary effect on medical costs due to its vulnerability to excessively high charges and possible exploitation.

It is obvious that the insurance industry has placed its confidence in the medical profession as a whole by offering this broad "free-wheeling" coverage. It poses a real challenge to our industry and your profession to make it succeed in the total public interest. While some instances of excessively high charges have been encountered, we have found the medical profession cooperative in dealing with those individual problems equitably.

Continued on Page 408

The Blues*

Linus J. Stitham, M.D.**

Our remarks here today were listed in the program as coming from a panel of experts of the State and the Nation. Each of us has had his own definition of an expert. The one that comes to my mind is this — an expert is a man who is speaking on a specific subject while more than fifty miles from his home. If you accept this definition, then I qualify as an expert.

Part of my remarks today consist of a prepared paper complete with colored slides. I am tempted to discard this portion, since there have been many interesting questions raised here today. However, those of us who are interested in the Associated Hospital Service feel that most doctors require a little education about Blue Cross and Blue Shield.

(At this point Dr. Stitham presented an illustrated talk prepared by Dr. Leonard J. Raider, Vice-President of Medical Affairs, UMS, New York, the Blue Shield of New York State. To conserve space this portion of Dr. Stitham's remarks are summarized.)

First, a review of the beginnings of voluntary health insurance are traced. In the "good old days" there was a simple relationship between the doctor and his patient. The doctor rendered care to his patient and the patient paid him. The doctor rendered care to many people. He received money from most of his patients. But there were always some from whom he received no money. But to all, the doctor rendered care. If he didn't get any money from some, he didn't worry about it because there was a good balance. He earned a living — his patients received good medical care — and everybody was satisfied.

Then during the depression, there developed an imbalance between the payments the doctor received and the care he rendered. The number of people he treated remained the same but the people able to pay dwindled. The doctor was working hard, harder than he had ever worked before, but receiving less and less for his efforts. On top of this, due to unemployment and low income, the care needed by patients was increasing.

This situation couldn't continue, but to whom could the doctors turn for help? How about the insurance companies? Well, the doctors did go to the insurance companies. The AMA met with high officials of the insurance companies to urge them to enter the field of hospital, and possibly surgical, expense benefits. They had an audience that was dignified. With firmness that was equal to the dignity with which they were received, they were informed that health could not be insured. They said this for perfectly sound and valid reasons, because the principles upon which insurance operates prove that voluntary health insurance is not practical. These principles are:

1. The rate must vary with the risk.
2. The rate must be equitable.
3. The risk must be uncertain for the individual but certain for the group.
4. The person must not benefit from the loss.
5. The loss must be sizable and frequent in occurence.

The insurance companies could readily see that the people who concerned the doctors most were the people to whom they were rendering care, and free care at that. These were people who needed care — people who were sick. The doctors were not asking the insurance companies to take care of the well people.

An illustration was then given concerning the floods in New England of a few years back. At that time, insurance companies said they couldn't sell flood insurance, because in developing your rate, if you attempt to spread your risk between the people in the peaks and the people in the valleys, you come up with a rate in the middle. The people on the peaks won't buy it — the risk rate will be too high and not equitable for the risk. The people in the valley will buy it, but they will be the only ones buying it. Therefore, you had a great deal of agitation for the State and Federal legislatures to provide some type of governmental participation in flood insurance. To carry this analogy to the health insurance field, the doctors were asking, in effect, for the insurance companies to insure the people in the valley. The insurance companies replied that this could not be done voluntarily and they used the aforementioned good principles to back up their statements. These principles still exist.

To get around this, doctors discovered Community Rate and voluntary non-profit pre-payment plans. The history of the development of Blue Cross at Baylor University Hospital was traced, showing how Community Rate was evolved. With this beginning, health insurance snowballed till everyone wanted everybody protected for everything. However, this desired goal had to be modified by Blue Cross developing underwriting standards. Rules were established, not with the idea of excluding poor risks but to make sure of getting good risks with every poor one. Rules to

---

*Presented at the 105th Annual Session of the Maine Medical Association at Rockland, Maine, June, 1958, as part of the panel discussion, "Health Insurance Is Here To Stay."

**Chairman, Health Insurance Committee, Maine Medical Association.

make the groups representative ones, composed of both good risks and poor risks. In other words, people who lived on the peaks and people who lived in the valleys. Other modifications were necessary when complete medical care experiments failed. But the doctors did not give up their primary objective — to provide, eventually, a medical program that was complete in every respect, because they realized that they could not jump all the way at once; that it must be approached first by selling hospital care, then surgical care, then in-hospital medical care and eventually as complete medical care as possible. So on this basis the doctors created Blue Shield.

Blue Shield:

Organized in the community interest.
Sponsored by the physicians.
Non-profit organization.
No stockholders and no dividends.
Low administrative costs.
Offered enrollment to entire community.
Good risks and poor risks.
Same rate charge, irrespective of age or sex.
No increase in family rate because of growth of family.

And just as important Blue Shield offered — fee for service, free choice of physician, no third party interference and maintenance of the traditional patient-physician relationship. It wasn't the complete answer to all the problems, but it was the best answer.

Enrollment, originally small, kept increasing. More and more people were covered. Everything was going along very satisfactorily until 1948.

In the beginning this protection was selected by individual choice. During the war years individual choice was encouraged greatly by payroll deduction and especially by employee contribution.

Since protection was purchased by individual choice, each individual evaluated the protection he received with the money he paid. Although each individual paid the same rate, Blue Shield paid back to certain people more than to others. Blue Shield extended payment as well as protection for the sick people who needed medical care, while for the healthy people Blue Shield extended protection only.

But what happens when a third party provides contributions? Of course the employees are able to have more coverage than they could otherwise normally afford, but something else happens. Where before you had several individuals each paying the same premium, now you have one paying for several. Now the employer started to look at what he was paying in dollars and what he was receiving in dollars, because he did not receive any protection. Thus he began to seek risk segregation. Not only did he look for it — the insurance companies suggested it. Whereas insurance companies had been afraid initially to deal with the unknown mass, they were now prepared to enroll only the people who lived on the peaks, because commercial companies are designed to make a profit. They are geared to make money. Therefore it is only natural that they not only met the request for segregation of risks, they actually encouraged it. They could offer more coverage on a dollar for dollar basis, to good risks and still make money.

The danger to the doctor and to the doctor's plan — Blue Shield — is that the commercial companies pull good risks away. They appropriate the good risks and they leave the poor risks where they can't support themselves. What does this portend? It omens a return to the same danger — that very unhealthy concept of segregation which existed prior to health insurance. It means a return to the danger of poor risks being unable to support themselves. If these poor risks be further segregated, they will have to drop their insurance and turn to the government or to charity for the care you will be called upon to render free of charge.

But to this danger is added another danger. The danger that the voice of the doctor will be all but stilled by third party domination. Blue Shield has served to balance the wishes of the medical profession with desires of the community, but employer or union contribution introduced a third party and presents a potential threat.

We as doctors must still offer our Community Rate in the presence of competition, thus our problem is to find the means to keep people in the community plan — and we have this means in service benefits.

Service benefits as provided by the hospitals through Blue Cross have been accepted and employed successfully by the hospitals to attack the problems of risk segregation. The hospitals have refused to give service benefit arrangements to plans other than Blue Cross because they realize that by working with one plan, the community plan, they provide an open door to membership to everyone.

Some doctors think you need experimentation, that competition is good and for this we need, and doctors should support, many plans. But that simply is not so. As Blue Cross and the hospitals know, you get the best results when you back one plan and you provide that one plan with effective service benefits. Doctors must support one plan and you as doctors are the only ones who can give it effective service benefits. (This concludes the summary of Dr. Raider's remarks.)

In essence I agree with the foregoing, that we must maintain and strengthen our Blue Cross and Blue Shield plans. However, I believe Dr. Raider deals rather severely with the commercial companies. They have, despite their late start, instituted many fine things in the field and personally I feel this to have had an extremely stimulating effect.

Mr. Waters, in his remarks, made reference to a deductible form of insurance. I should like to comment on this subject. While it may very well be what the patient needs, I am afraid that it is not what he wants, as witness union demands.

Unfortunately when you are dealing with deductible insurance, whether for automobiles or health, you are faced with the following problem.

How many of you here have had a car accident and as a result have suggested, or implied, or perhaps only wished, with a little larceny in your heart, that the body and fender man would add the fifty or twenty-five dollars you must pay, on to the bill that the insurance company receives. I see quite a few smiles, so I expect the idea has at least crossed the minds of some of you. Exactly the same thing does take place with the deductible feature. I happen to be contract surgeon for a radar station and I provide coverage under Medicare for about one hundred families. Already it has been strongly suggested to me that I should tack on twenty-five dollars to my bill so that they would not have to stand the first twenty-five dollars. Fortunately, with the armed forces, you have a captive group. All I have to do is suggest that I speak to the commanding officer and that is the end of the discussion. However, unfortunately, for a deductible feature at least, civilians are not subject to a commanding officer.

To my mind the foregoing is one definite drawback to deductible insurance.

Reference has been made earlier on this panel to the comparative inadequacy of present fee schedules and to the lack of effective policing of physician abuses. I would like to believe that we, as doctors, are fundamentally honest people. However you know as well as I do, that whatever the fee schedule an insurance company or companies happens to pay, very shortly becomes our regular fees. It is a perfectly natural phenomenon.

To digress a moment, about the little bit of larceny that possibly exists in all of us, and to point out how we are pressured by our patients at times, let me quote one horrible example that actually took place a few years ago. I may not have the precise diagnoses correct but this is what took place. A husband had a broken leg, his wife became ill with pneumonia which necessitated her going to the hospital. These were two legitimate illnesses, but prior to the wife's illness, she had been caring for the husband at home. They had five children and no baby sitter. The husband and wife were sent to the hospital. Within the next day or two all five children were hospitalized with "upper respiratory conditions." That, I am sure you will agree, is rather expensive baby sitting.

We have certain locations in Maine as in other states where the amount of money paid out by Blue Shield to doctors is considerably more than the premiums paid, and places where there is hospitalization for upper respiratory conditions and other minor ailments that last twelve, fourteen, or twenty-one days. All this at three dollars per day for Blue Shield, not to mention the cost to Blue Cross.

Many of these abuses are difficult to prove and policing in actual practice is extremely difficult, certainly not impossible, however, if we were to have the cooperation of that vast majority of our profession who are fundamentally cooperative.

References have been made on this panel to difficulties with the administration of Associated Hospital Service. Admittedly, administration of medical matters by non-medical personnel is a potentially difficult situation. However, it has been my experience in the years that I have been associated with Blue Cross and Blue Shield that the administration was happy, whenever actuarily possible, to make changes and adjustments. Administrators can be difficult for doctors to deal with but I would point out to you that by the nature of our training, we are not necessarily business men or administrators and that few of us know very much about the actuarial problems incident to the insurance business.

As to the representation on the Associated Hospital Board of Directors, by State law, there are twenty-one directors — seven doctors, seven laymen, and seven hospital people. In the last six or seven years, I have never asked a specific thing of our administration of a medical nature which was not granted if actuarily feasible. There are, of course, still frustrations and irritations. If we had seven doctors who would put in an appearance at every director's meeting, and who would take a vital interest in the program, more doctors on the insurance committee interested in this problem, if we could make all of you aware of the extreme need for such interest, I am certain we could come up with a much better program than we now have.

Health insurance, as has been adequately pointed out to you today, is a growing industry. We have made a lot of mistakes, we are going to make more. We need help and experimentation. Most of the things mentioned here today are certainly desirable. The plan we have recently introduced in our new contract for non-surgical specialists is the only one of its nature in the entire country. Every plan was contacted and without exception, they all made no extra payment to the non-surgical specialists and, in fact, most of them were extremely skeptical of any such provision. This is an experiment on our part. There are plans experimenting with "any usual fee." Some plans are experimenting with life time coverage. The whole field of health insurance is constantly changing and striving to improve itself.

Historically you may remember that back in 1947 we tried to start our own health insurance plan. We went before the legislature since we had to have an enabling act passed in order to run our own program. A very few M.D.'s appeared at the hearing but a great many osteopaths were present, since they were not to be included. Our request for an enabling act was refused. We then approached the commercial companies. They wrote a plan, but at the end of about two years, had sold a ridiculously small number of policies in Maine — some three or four thousand. We then finally approached

the Blue Cross and asked them to take on Blue Shield. This they did and in selling it and making its many advantages available to both the people and the Doctors of Maine, I am sure you must admit, they have done a marvelous job.

If we could have our own program, I would like very much to see it take place. From a financial standpoint, it seems to me to be impossible. Therefore, let us do the best we can with what we have. If some of the critics of this program among our own profession would serve on the Board of Directors and in due course of time receive assistance from their colleagues, perhaps we could change some of the things that our critics now find objectionable.

50 Main Street, Dover-Foxcroft

THE PROBLEMS OF HEALTH INSURANCE FROM THE M.D. POINT OF VIEW — *Continued from Page 401*

cases in which the patient desires to be hospitalized, where they can be effectively treated on an outpatient basis with tremendous savings to Blue Cross, and at the same time relatively little inconvenience to the patient. This must be the physician's decision only.

Self-discipline is most important. It is my firm belief that most physicians are honest, and the few who stray can be brought in line by a firm and courageous medical society.

Finally, No. 8. The doctor must educate himself in the nature and possibility of health insurance. Most of our troubles come from within. Too many of our colleagues do not know what they want, and many who do know and who have convictions, lack the courage to stand up and say so. Our responsibilities can no longer stop with treatment of the patient. In addition we must help him find the means to pay for our services in a fashion which will guarantee to him the best of medical care.

Our Health Insurance Committee, which now is a policy-making committee with the power to act for us, must also have the backing of a strong medical society which will act as a group and insist on adherence to our reasonable requests.

Who knows the medical needs of our patients better than the physicians who treat them? Although our Blue Plans need our united support, we must be ready to bring united pressure to bear upon them when the policies are not in keeping with the needs of top notch modern medical care.

Above all we must be on guard that we do not readily give up medical and economic freedom to any lay group. When over 90 per cent of the population in the State is covered by a Plan, you have a private form of socialized medicine, whether you call it that or not.

As the Medical Director of the Health Research Foundation recently wrote in the A.M.A. Journal, "Socialized medicine in England and France did not arise *de novo,* but on the foundation of pre-existing pre-payment plans such as Blue Shield."

39 Deering Street, Portland

THE HEALTH INSURANCE STORY FROM THE INSURANCE INDUSTRY'S POINT OF VIEW — *Continued from Page 404*

The problem which concerns us both more seriously, however, is the gradual unwarranted increasing of charges and services due to the presence of this type of insurance. Prominent medical authorities and we are asking every practicing physician in the country to take an enlightened self-interest in the serious social consequences of the many decisions which he makes each day. You have an important stake in the success or failure of this type of coverage.

The insurance industry also recognizes its responsibilities. Through the Health Insurance Council, which represents the majority of the companies writing health insurance, we have been working for over eleven years at national, state and local levels with physicians and hospitals.

In the State of Maine and in most other states throughout the country, local committees have recently been formed and are designed to provide a line of two-way communication between physicians and other health care professionals at the "grass roots" level and health insurance management. These committees are made up of representative insurance men who are actively seeking your thinking on health insurance matters, and at the same time to inform you of what we are considering and doing to make voluntary health insurance more effective.

If we are in agreement, and I am sure we are, that we must keep health insurance and medical practice on a free competitive basis, then we must solve our mutual problems through better understanding and on a truly cooperative basis.

This opportunity to participate in these discussions here today, is proof-positive that your organization has a sincere interest in achieving that objective.

Tritanopic To A Blue Shield

A Visual Guide to Physicians

Philip P. Thompson, Jr., M.D.

Among the medical profession there has become manifest a new deficiency disease. It is a deficiency primarily of visual perception and falls into the category of Achromatopsia or color blindness. This is known scientifically as Tritanopia but clinically recognized by the fact that the individual sees Red when confronted by a Blue Shield.

The cause of this disease is a deficiency of knowledge, and excess of adrenalin manifest by a visual and mental blackout on being confronted with fee schedules, income limits and a senseless number of facts and figures pertaining to Blue Shield operation. For example, when the director of Blue Cross or even the chairman of the Health Insurance Committee start quoting statistics or arguing fees on income limits, depth perception quickly diminishes, and soon becomes zero.

An attempt will be made to clarify one's vision so that an average physician can perceive the truth in logic rather than in anger. He may then speak and act with a clairvoyance hitherto not demonstrated.

By focusing our vision on providing the best medical care within the economic reach of the American People, by demonstrating a willingness to sacrifice certain short-sighted economic gains for the sake of the medically indigent, by encouraging the participation on Blue Shield Boards of Directors of earnest informed outspoken citizens and by manifesting a greater degree of self and organized discipline, we shall not only perceive the truth but attain a strong enduring Prepayment Health Insurance program of which we can be proud.

Social Economic Background

The 170 million people in the United States were paying in 1953 about 11 billion dollars for medical care. They were spending about 4 per cent of their personal expenditures on health. This is roughly broken down as follows: Physicians Service 28 per cent, Hospital Service 26 per cent, Drugs 16 per cent, Dental 9 per cent, Miscellaneous 21 per cent.[1] As these figures apply to the average family, of which there are 43 million it amounts to about $200 a year.[2] Although insurance premiums paid amounted to 887 million dollars, they cover less than one-fourth of the cost of physicians services.

Not only is less than one-fourth the cost of medical expenses paid by insurance premiums but there are 60 million people who have no insurance, 76 million with no surgical insurance, and 110 million with no medical insurance.[3] So there remains both a large percentage of medical bills unpaid by insurance and a large number of people who have no insurance. Of this group a large majority have no funds to pay for medical care.

In 1956 there were about 10 per cent of the families with incomes of less than $3,000, but of those only 41 per cent had health insurance as compared with 80 per cent of families with incomes over $5,000. It is to be noted that urban coverage is 70 per cent compared with rural coverage of 45 per cent. At age 65 enrollment drops from 70 per cent to 50 per cent and after age 75 to 35 per cent.[2]

Although the majority of families spent less than 10 per cent of their income for medical care, one million families spent half their annual income for it. There were 500,000 families that had medical expenses exceeding their annual income.

Table I illustrates the importance of insurance in the cost and type of medical care:

TABLE I

	Families With Insurance	*Families Without Insurance*
Average length of hospital stay	9.7 days	9.7 days
Hospital Admission Rate (per 100 persons per year)	13.	10.
Surgical Procedures (per 100 persons per year)	7.	4.
Annual cost for medical care (Average) (per family per year)	$145.00	$ 63.00
If family income $2.000	$ 82.00	$ 43.00
If family income $7,500	$255.00	$185.00
Average Hospital Days per Year	110	80

It is clearly obvious from the figures that the cost of medical care for many families is staggering even though it has not kept up with a 12 per cent increase in the cost of living during the past five years. It is also apparent that many families are unable to pay these expenses out of their savings. Therefore, there must be some form of prepayment plan or regular budgeting of funds to meet the health needs.

Another more important conclusion to be drawn from

these figures is the fact that if a family has insurance, medical care costs them more. No doubt the family receives better care and more care, but should the wage earner be paying out 50 per cent to 100 per cent more of his income when he should expect to be paying less?

There is no doubt that the low income groups, the rural populations, and the aging populations must have a larger percentage enrollment in these Health Insurance Plans. This can be done only at some risk and with some sacrifice on the part of all concerned.[6]

Objectives

In discussing health insurance among ourselves it is easy to lose sight of the objective of Blue Shield or any sort of Prepayment Health Program for our fellow citizens.

The first and foremost objective is to provide the best medical care for the people of our country. In doing so we must consider all segments of our society; those with insurance, those who do not now have insurance, and those who never will.

The second objective is to provide the best care for the most people in a manner they can afford.

Physicians realize, but many laymen do not, that the best care is not the most care, nor is it the most expensive care. In other words, it is the responsibility of the medical profession to define and delineate the confines of good medical care. Neither Blue Shield, nor any other plan of socialized medicine yet devised can afford to pay for "as much care as people think they should have"; nor can it afford to pay every physician as much as he may think he should have. So at the onset there must be limits — financial limits, medical limits, and social limits. These limits must be airtight, sharply defined and clearly understood by the insured, and by the physician.

Dr. Charles Bradford in a recent letter to the Editor of the New England Journal of Medicine states that the questions facing the medical profession today are:

1. What part are we the physicians to play in the changing social, economic and political patterns of today?
2. What part is Blue Shield to play in them?
3. How effective are these parts to be in the future?

He points out that in no other country in the world is the private practice of medicine still in existence. It is his opinion that Blue Shield has been largely responsible for the continued freedom of practice as we know it.[5]

The influences are strong from all quarters, he continues, to force a handout from the physicians to provide "the priceless gifts of life and health at bargain rates and at the taxpayer's expense." These influences are from (1) state and federal government to extend services for those covered by Grants-in-Aid; (2) from the labor leaders and commerical insurance companies to give complete coverage for lowest cost; and (3) certain demagogues speaking on behalf of the hostile public opinion attempting to portray the medical profession as a Shylock squeezing the last cent from the sick and poor.

By continuing to administer Blue Shield wisely, by assuring Blue Shield of a strong management, and by adopting an attitude of "giving as well as receiving—i.e. by granting the public as many benefits as we hope to assure for ourselves"; only by doing these things, Dr. Bradford feels, can we hope and expect the "survival of a self-determining profession."

However, he states, "If Blue Shield is selfishly administered, it is likely to collapse like a house built of sand. When the rain of public disfavor falls, selfishness will not stand. It will lack the one principle essential to all modern institutions — public service."

Dr. Bradford believes that we should stop focusing our thoughts childishly on income levels, fee schedules and stop bickering and yammering about them. We must grasp the larger significance of Blue Shield, stand behind the major decisions not for selfish gain but to share with the public — mutual service and benefit. In no other way can the medical profession preserve its time-honored status as an altruistic body of men, free from the sordid controls of politics and commerce, devoting itself wholeheartedly to scientific and humanitarian tasks.

As true and important as these statements are, it is necessary for the physician to get adequate compensation just as the laborer or clerk. There is such a slow lag in changing fee schedules and practices that the doctor finds fee schedules, at times, far behind the rising cost of living. At this juncture he becomes angry and complains. It is this complaint that is heard the loudest in the press, whereas the justification for the complaint is never explained.

Of equal importance is a strong Board of Directors representing, the Medical Profession, Labor, Management, Hospitals, and the Public. Only by active participation, frank exchange of information and balance of all opinions can the best interests of the public be served. Domination by any one group on a Board of Directors will lead to selfish decisions and a weakened Blue Shield. So whatever influence may be brought to bear by the medical profession to insure an eager, informed, decisive and public spirited group of men to serve on Boards of Directors, this should be done at all costs.

Participants

To gain a proper perspective of the whole, the many facets of Blue Shield should be examined from the point of view of the various participants. Only by having their opinions and examining each carefully, can an objective opinion be formed and directive action taken.

The following are thumbnail sketches of the actual and potential directors and benefactors of a Blue Shield program.

1. *The Insured*

$3,000-$5,000 Income Group. (Majority of our people.)

He plays a very important role but I fear too often is merely a pawn in the game. There is an 80 per cent chance that he lives in a city and is employed by a large group, and is a member of a union. He personally never asked for the insurance, resented the money being deducted from his pay, has no idea what he's covered for or against. He only knows that he has been paying so much for so many years, if his total medical bill is not paid he is sore as hell. He lets everyone know, particularly if the amount he has to pay his physician or hospital is just about as much as if he had no insurance.

$5,000 and up Income Group:

Unless the insured is caught in a group, the chances are he has sought out a private insurance company to tailor-fit his needs and pays a premium much larger than comparable Blue Shield premium. Since he has an indemnity type contract, he too, may get a bill from the physician and will complain louder and in more influential places.

Service Category (less than $3,000 income group): This person who never before had any insurance because his income was always less than $3,000. Neither did he ever have any medical or hospital bills for he received free care. Now as a large industrial employee he has group insurance through no effort of his own, but demands better and more personal care than he did when it cost him nothing.

$7,500 and up Income Group:

This man now has major medical coverage — ($100 to $500 deductible feature with $10,000 limit.) He feels well satisfied with himself. He may have paid through the nose for it at private rates but a good bargain none the less. The first four times he has to use it are for four deliveries: Total credit from insurance $200, cost to him $400 above premiums; next four, tonsillectomies. Credit: none from insurance, cost: $300 — very unhappy. Next he gets a bad cold due to overwork and business pressure, demands hospitalization for two to three weeks, then a month in Bermuda to recuperate. Now he is making money on the deal and he is happy.

This type is probably the best and cheapest coverage for all income groups and particularly for this group. These people must be coddled a little to keep them in Blue Shield. Better public education will diminish the practiced abuses. It is measuring up to the expectations of the General Electric Company and 315,000 of its employees.[10]

2. *The Physicians*

A. The General Practitioner: (rural area, no hospital, well established, busy, harrassed, and weary.) If he has a patient with Blue Shield it is unusual; if he can't take care of the illness or accident in his own office or the patient's home it is even more unusual; and if the patient has to go to the hospital for care, some "specialist" takes care of his patient so he gets no fee anyway. Opinion of Blue Shield: None.

B. *G.P.:* Suburban or urban (with hospital facilities and privileges at hand). Most of his patients have insurance. Full payment on service benefits for deliveries are more than he would ordinarily charge a young family. It is easier to hospitalize children and mothers when ill with no one to care for them at home. "Better go to hospital where you can get more rest and recover faster." No complaint about fees. Opinion of Blue Shield: "Never had it so good."

C. *Surgical Specialist:* (Urban Area, young, well-trained, not much practice as yet.) Each case that walks in office he expects to see perforated ulcer or colon cancer, but finds only "internal hemorrhoids," perhaps a few warts or moles. Looks up fee schedule and books for O. R. (benign nevus removal $15). Thanks his luck that patient has insurance, for patient would never have had surgery if he had to pay for it out of his own pocket. Also complains because going rate for gastroesophageal resection is only $150. Opinion of Blue Shield: "Hot (at times to himself for mouths have to be fed and office rent paid) and Cold" (as a potential big money earner to his colleagues and at society meeting — Higher Surgical benefits.)

D. *Surgical Specialist:* (well-established, busy practice with major surgery — requiring 4-6 hours for average operation of which he does two a day.) "I can't work for that money ($150) for six hours work." and he is right and has just complaint. Opinion: "Higher Surgical Fees."

E. *Non-Surgical Specialist:* (Busy or not busy — urban or rural) "I get paid more for filling out an insurance form than caring for a patient for one day in the hospital under this plan. I receive an average one-fifth as much as the average surgeon and one-fourth as much as the average General Practitioner per year from Blue Shield. In Maine, the highest paid Non-Surgical Specialist in 1955 received one-twentieth as much as highest paid General Practitioner, one-tenth as much as the highest paid Surgeon from Blue Shield. Opinion: "Skip me. It's not worth the effort. Average length of stay for my patients is five days — first three days not paid, for two days' care and insurance forms in duplicate — $6. return — not worth it. Make it realistic. Higher Medical Fees or count me out."

3. *Executive Director*

This individual is comparable to the tax collector. He sees only the faults, rarely the strong points of his medical confreres in health. He has struggled to the best of his legal ability to plug all possible loopholes in the contract he drew up. He is chagrined to find that: one-fifth of the physicians' expenditures are for dental care, mostly for extractions of temporary teeth amounting to $40,000 in one year; the cost of removing warts from one child, $100; 10 per cent of the physi-

cians are receiving 50 per cent of the "Physicians' Expenditures," that more tonsillectomies were being done in one year than there were children being born in the state; some one physician has an average patient hospital stay of 15 days, while the average in the community is five; hospital usage is 25 per cent more when patient has Blue Shield as compared to those with Blue Cross alone, etc.

To his knowledge the Medical Society has never reprimanded or punished the abusers nor caused to be returned any funds for excessive payments.

At each meeting with the Health Insurance Committee, physicians are asking for higher fees, and his exchequer is nearly broke. No wonder his hair turns gray and his upper lip curls when he even thinks of physicians. He sees the worth of the profession and in its most commercial cloak.

This has happened because Blue Shield is "George" or the third party — a nonenity with unlimited income — to the physician. "Soak him. No one will ever know, not even my patient." If the physician were asked point-blank, in several circumstances, "Would you charge those fees if the patient had no insurance?" Physician would answer, "No."

4. *Board of Directors:*

The Boards of most Blue Cross-Blue Shield County or State Plans have, in addition to the Executive Director, men representing related health interests such as Hospital Association, Public Health agencies, labor and farm groups, local insurance agents, as well as the average citizen. There is often a banker and a lawyer representative. This group of non-medical men are not often well-informed of the background of Voluntary Health Insurance programs, its aims and methods. Even if they are well-informed, they come to a meeting of the Board with an agenda drawn up by the Executive Director rather than by the President. Then there are presented to them charts of enrollment (gains or losses), subscriber payment figures, usage curves for Blue Cross for those with and without Blue Shield, pie charts showing that the administrative slice is becoming smaller and smaller — physicians' and subscriber benefits larger and larger — and the summary of activities for the year is presented by the Director. Perhaps they will understand these things and perhaps they won't. In any case, it is all perfunctory with little opportunity for them to express themselves. They expect at this point to be able to go home.

However, there are always a few matters of policy but, by and large, these amount to bones of contention between the Director and the medical profession. Then there often ensues a long heated argument usually over increases in fees for minority groups. These groups are well represented and primed with all the emotions, arguments and gripes of their colleagues. The sum and substance of it all is to demonstrate how unfair the plan is to his particular group. The matter may or may not be resolved or is referred back to a committee. In any case the meeting has been prolonged by bickering for one or two hours after the Board member should have been back to work or having dinner with his wife.

The net effect on the non-medical Board member is that of disgust, disenchantment and wonderment. He has not been asked for his opinion, no major policy decisions were made and his inclination to partake further of such a waste of his time is low. There has been no mention of the public interest, future plans for extending coverage, or how the group he represents can best be served by Blue Cross-Blue Shield.

This may not be true of all meetings of Boards of Directors but it is typical enough so that many capable business and civic leaders decide to throw the announcement of the next meeting of the Board of Directors in the wastebasket. They have more important things to do than listen to people argue selfish interests.

The public must be made aware of its participation in Blue Shield plans.[5] The members of the Board are the public's representatives and should voice the public sentiments as well as voicing to the public the aims of Blue Shield — *to provide service for health needs on community pre-payment basis* is its function. It should be pointed out that Blue Shield is an organized effort to provide medical care in a manner that is practicable and most advantageous to the community.

Types of Insurance Plans

It is necessary to have a working knowledge of Health Insurance jargon to understand any article, report, or discussion of Blue Shield-Blue Cross matters. First, the various types of contracts should be explained.

Service Contract — means payment in full for services rendered. This may apply to certain income groups only, e.g. $2,000-$3,000 annual income group, i.e., $2,000 individual or $3,000 total family income.

Indemnity Contract — means payment in part for services according to a schedule. The balance of cost of medical service to be paid by the insured.

Combined Contract — One that has both service and indemnity features for various income limits.

Deductible Contract — The insured is responsible for the initial cost in the amount stated as deductible. If the total bill is less than amount stated, contract pays nothing. This may range for $10 to $1,000, at this time it is nearly always a part of a Major Medical Coverage.

Coinsurance — The insured and insurer pay hand in hand a predetermined percentage of medical costs usually above a certain amount and often up to a predetermined total. This is the most common method of providing major medical coverage.

Family Budget Plans — The family head decides what amount he can afford in any one month for medical care. This amount (usually $50 to $200) becomes the deductible amount. He then pays a premium to cover the cost over and above the deductible amount for

full coverage. In other words, it is a regular deductible plan but the amount deductible varies with the amount the insured can afford to pay for medical services for his family out of his monthly income.

The true purpose of "deductible plans" is not solely to transfer the initial expense of medical care to the individual but to keep the premium cost for major expenses at a level within the economic reach of the greatest number of people.[7] By providing a sliding scale of deductible amounts, as in a family budget plan, the premium cost for the good risk and high income groups can be kept low to compete with private insurance company rates for this group. This tends to maintain an integration of good risk and poor risk people necessary for the success of Blue Cross-Blue Shield plans.[9]

The coinsurance feature acts as a deterrent to the tendency on the part of the insured to buy benefits rather than protection.

According to insurance authorities continued growth of this type of protection depends on the attitudes of insured persons as well as the attitudes of those in the health professions. Benefits are not geared to a fee schedule, but payment of "usual and reasonable" fees. It is open to abuses both because of generous maximum benefits, and the tendency to submit unusual and unreasonable bills with the high ceiling of benefits in mind. It is advantageous because it does not disturb the traditional financial arrangements between physicians and patient. As well, it allows for treatment by specialists who frequently would be involved in a complicated case requiring more than usual treatment and unusual skill.[7]

The privileges granted to the profession by this type of coverage carry with them certain responsibilities on the part of medicine. If this form of protection is going to prosper and bring needed protection to the insurance buying public, organized medicine must assume the responsibility of supervising it.[7]

The medical profession must resist its tendency to increase "usual and reasonable" fees. Insurance is not an inexhaustible supply of money. If benefits rather than protection are demanded by the insured and increased fees for the doctor rather than a reasonable return for time and skill expended, the voluntary Health Plans will become bankrupt. All will be lost. The private practice of medicine will cease to exist.

Future

The Non-Insured: One of the foremost tasks of the medical profession and Blue Shield Boards of Directors is to increase the number of people enrolled. Instead of 20 to 50 per cent of the population, it should be the aim to have 80 to 90 per cent protected by some form of "complete coverage" Health Insurance. This must be done by a concerted effort on the part of the medical profession, through public education campaigns by Blue Shield or commercial advertising, and most important by Lay Members of Blue Shield Boards of Directors. These directors should be respected members of the community, well informed on the problems and they must be heard more often.

The Family: Of next importance is to tailor the type of coverage to the needs of the family unit. It is unusual for a person under 60 years of age to require coverage for prolonged illness. It is usual for those over 60. However, long term illness coverage must be paid for when an individual is young and has the funds. So the basic needs of the average family is acute coverage for illness under 60 and paid up major medical expense contract for the heads of the family at age 60. This type of contract with a "Family Budget" deductible feature would be the cheapest and best protection possible. This should be basic for every family. Additional features could be added at extra cost.

High Income — Good Risk Groups: These groups must be kept within the fold of Voluntary Health Plans to help bear the burden of Low Income, Aged, and Disabled. This group necessarily must pay for the other no matter how medical bills are paid, by Government, United Fund or others. By offering them insurance with larger deductible amounts, Service Benefits up to certain maximum limits in proportion to their income, coinsurance percentages commensurate with their income, and highest possible coverage. All amounts should be figured according to usage and income by actuarial statistics. Then if the premium is increased a bit to share the cost of the poor risk or low income group, these groups will think they will and actually *will* receive the degree of protection and benefit which they are paying for and using.

Low Income Groups: Service type contracts with lower fee schedules, lesser benefits both as to duration and degree must be provided at a premium within their purchasing power. Since this group for the most part have been cared for by the medical profession "free of charge," whatever is realized from this group would be a bit more than formerly received. Most important is to make the premiums within their reach.

Aged: In so far as possible, an attempt should be made to provide paid up insurance at age 65. However, this will not be possible immediately and their needs must be met. It is obvious that this group will require acute and chronic care. To provide chronic care at hospital rates and daily physician's services during a phase of or for the duration of chronic illness is illogical and probably impossible. Providing for acute in-hospital and home and medical care with specific limits for any one illness plus maximum number of home or office visits per year is again basic coverage for the elderly.

It can be hoped that this group could afford to pay out of earnings, savings, or even O.A.S.I. monthly payments the premiums necessary to allow this degree of coverage.

Disabled: There are many voluntary and governmental agencies involved in the care of this group and the need for their coverage as a group under voluntary

health program is perhaps questionable. However, it might be possible to evaluate carefully each disability, estimate the need for medical services over the years and set a premium commensurate with the predicted need. Maximum limits on this type of insurance would be a necessity.

State and Local Welfare Patients: The cost of health care for this group has long been the responsibility of our government agencies. The expense has been so great that many cities and states quickly saw the need of providing hospital and medical care at their own expense. If the load is great enough, the cost saving necessitates such a method of care. For the small community, poorer states, or counties, this is, of course, impossible. As a result, these governmental agencies are entering the field of health insurance negotations so that they can budget this item annually and let insurance companies, private or voluntary, take the risk and headaches associated with it.

Whether this is a province that Blue Shield-Blue Cross should enter is certainly debatable. However, this group is expanding to include all State-Federal aid recipients. Part of their monthly check is being withdrawn by State Health and Welfare authorities to provide them with medical care. Just how this money is used or should be used is a question not yet decided.

In any case, it should be pointed out that existing Blue Cross-Blue Shield and Medical contracts are being used as guides to governmental agencies regarding methods and amounts of payments as well as the degree of services extended; all of which emphasize the vital role Blue Shield is playing and will play in the medical, economic, and political future.

Future for the Physician — The success or failure of voluntary Health Insurance rests on the shoulders of each physician. It also rests on the shoulders of organized medicine. If the individual physician would send a bill or accept a fee similar to that he would feel justified to receive if he were the patient, there would be fewer complaints by the public.

For Organized Medicine: County, State and National Medical Societies have lagged far behind in acquainting the public with the reasons for its association with Blue Shield. As a matter of fact, organized medicine has been a bit stand-offish — awaiting the outcome rather than putting its full weight behind a cause the outcome of which has been somewhat uncertain. Now it must support, sell, supervise, and advise to the hilt. There has been sufficient experimentation, knowledge and experience collected at this point for all to agree on what is needed, what is best, and what is serving the physician and the people to their mutual satisfaction.

Organized medicine has the most at stake, the most to lose, the most to win. Public opinion is at the moment unfavorable. A concerted continuing propaganda campaign is necessary to set the record straight. It will be necessary to admit mistakes, inherent in any experiment, pointing out that they will be fewer in the future and that the already realized benefits to all are manifest at this time.

If organized medicine — together with well-informed Boards of Directors — does provide the types of contracts needed to suit the people and their ability to pay, the future for the private practice of medicine in the United States will be bright and the economic worries of illness for our people practically non-existent.

Suggested Solution

Before there is a concerted effort to sell the "Blue Shield Doctrine," the medical profession has a few problems to be ironed out among themselves. The foremost of these is fees, the cause of all the "bickering and yammering." The chief cause for the controversy is the disparity of fees among the various types of medicine being practiced. The differences between rural and urban, specialty and general practice is so great that to satisfy the urban specialist at his going rate would soon bankrupt the plan as well as embarrass the rural general practitioner, if it were learned by his patients that he were collecting such fees even though equally deserved. Each plan has attempted to conciliate the irrevocable extremes with the result that neither is satisfied.

The obvious answer to such controversy is "Usual and Reasonable" fee schedule for all. However, such a schedule puts such demands upon a "police force" representing organized medicine that few societies have been willing to assume the great responsibility. If this solution were agreed upon, it is necessary that the profession police it and see to it that it does not bankrupt the whole plan.

An alternate scheme has been devised in Maine whereby one specialty group, the Non-Surgical Specialists, polices its own members who are allowed to charge their "usual and reasonable" fees. Three per cent of the expenditures for physicians' services is set aside to cover the cost of Non-Surgical Specialists' fees over and above those provided in the basic contract. It is reasonable that each specialty group and representatives from the Academy of General Practice could do the same thing for its members.

The next most important problem to be settled in physicians' minds is the necessity of providing "Service Benefits" as opposed to "Indemnity Benefits." Dr. Leonard Raider, vice-president of Medical Affairs of New York's United Medical Service, states that without "Service Benefits" Voluntary Health Insurance is doomed. It is the single feature that Private Insurance Companies cannot provide and it alone will encourage the preferred risk groups to stay with Blue Cross-Blue Shield. In the absence of effective Service Benefits in some Blue Shield Plans, the private insurance companies have been able to attract away from Blue Shield Community Plans more than half of the persons covered for Surgical and Medical Insurance.[9] Whereas Blue Cross,

Continued on page 423

Orinase® (Tolbutamide) In The Treatment Of Diabetes Mellitus

E. R. Blaisdell, M.D.

Both American and German medical literature contain numerous articles pertaining to the use of Orinase (tolbutamide) in the treatment of the diabetic. References to these many articles would be needlessly repetitious. A few basic factors concerning the physiological action of Orinase with the indications and contraindications for its use would seem pertinent in any paper on diabetic therapy.

Orinase was originally called D-860 by German manufacturers and German clinicians who were the first to make it, and to use it some three years ago in the treatment of the diabetic. Their original figures showing that one could expect failures in 84% of patients in whom the onset of the disease was under forty-five or fifty years of age and successes of about the same percentage in the older age groups seem to have been rather accurate. They also observed that the normal or underweight patient who did not develop the disease until after middle life might not respond to Orinase until after a course of insulin therapy which, if good results were to be expected, should be followed by a gain of weight.

A very small percentage of patients with onset of the disease between twenty and forty or forty-five years of age may respond to Orinase without insulin. Orinase has been used in combination with insulin in patients requiring large doses of insulin in an attempt to decrease the daily insulin dosage, and in the so-called "brittle patients" with unstable blood sugars. There seems to be little excuse for using it in the former group as it certainly is of no importance to the patient if he still requires an injection once daily. It may, however, be helpful in those with unstable blood sugars; fortunately, these patients are relatively rare and furthermore the majority are in the younger age groups where Orinase is usually ineffective. Irrespective of age, Orinase will usually not replace more than thirty or forty units of the daily insulin requirement.

Orinase is not a deficiency hormone in contrast to insulin which is effective in all patients with diabetes. It is limited in its use partly due to the fact that the physiological effect depends upon the presence of a goodly number of reasonably healthy pancreatic beta cells. The majority of investigators are of the opinion that the beneficial results of Orinase are due to stimulation of these cells which results in a gradual release of extra insulin. It is quite apparent that this effect lasts for several hours after a therapeutic dose of Orinase but only a relatively small amount of extra insulin is produced each hour, which probably accounts for the ineffectiveness of Orinase in the surgical patient or in the patient with acidosis, infection or severe injury when two to ten times the usual amount of insulin is suddenly necessary. Unlike insulin, the amount of Orinase effective on any one day is limited; doses greater than six tablets (3 gm.) initially and two or three tablets (1 to 3 gm.) daily thereafter may depress the pancreas rather than stimulate it and consequently do more harm than good.

A few patients taking Orinase have developed so-called secondary failure. This usually appears within twelve months after the beginning of Orinase therapy when without apparent reason the well-controlled patient suddenly develops a high blood sugar with urinary sugar which will only respond to insulin. The physician may suspect, and the suspicion may be correct, that the patient has been grossly indiscreet in diet and has attempted to again control the diabetes by increasing the Orinase which has further damaged the beta cells However, one must accept the possibility that in some patients the beta cells may finaly fail to react to stimulation and that supplementary hormone therapy in the form of insulin will be necessary to control the metabolic defect.

Orinase is contraindicated in: juvenile diabetes, thyrotoxicosis, pregnancy (especially after the sixth month), severe liver or kidney disease, patients receiving cortisteroids and in the presence of infection, severe trauma or surgical procedures. Despite the ineffectiveness of Orinase in the above conditions, the patient who has previously been controlled with it may, under supervision, discontinue insulin and resume the Orinase as soon as he has recovered from infection, trauma or surgery.

Method of Administration of Orinase

After one has chosen a likely candidate for Orinase, the method of administration will depend upon the physician. In the majority of cases this can be done as a simple office procedure, which is less expensive for the patient, if the physician has a dependable laboratory in his office or one near at hand where laboratory results can be obtained before the patient leaves the office.

Suitable candidates will fall into two classes: (1)

those who are not receiving insulin and (2) insulin patients. For those in Class 1, a well-balanced maintenance diet should be prescribed for a few days. This will, in some instances, be found ample to control the diabetes without Orinase. If not, four to six tablets of Orinase may be given before breakfast, the regular diabetic meal given at noon, followed by a blood sugar and urine analysis at four or five p.m. In some cases, the results seem to be better if one gives four tablets in the morning and two at noontime. If there is a marked drop in both blood and urinary sugars, the dose of Orinase should be reduced by one or two tablets. The blood and urine tests are done for the next two or three days and the Orinase adjusted accordingly. Following this, blood sugar tests once or twice a week are advisable for two or three weeks and then once a month. In addition to the test for sugar, a complete blood count should also be done. One-half to two tablets will usually be found to be an adequate maintenance dose to control the diabetes in the prospective, suitable candidate. If after two days trial the response to Orinase is not favorable, it should be discontinued and insulin started. Patients in Class 2, who are already taking insulin, present more of a complex problem. Even those in the favorable age onset group may be difficult, especially if they are under-weight, with an insulin requirement of over 40 units of insulin daily and have a history of having been in coma or acidosis. If a patient has been in coma or acidosis, hospitalization is the only safe procedure. Lacking a history of acidosis or coma, a change from insulin to Orinase may be safely carried out as an office procedure if it is done carefully with especial attention to urinary acetone. In every instance whether the transfer is attempted in the office or in the hospital, the diabetes should first be brought under complete control with diet and insulin. In order to avoid complications in the form of acidosis or coma, the manufacturers advocate reducing the insulin gradually when Orinase is started. This is beyond doubt the most conservative and safest method of approach. This procedure, however, is more complicated and more likely to produce insulin reactions as it is impossible to determine the percentage of normal pancreatic cells which will respond to Orinase stimulation. For this reason, the writer has discontinued the insulin abruptly in the well-regulated patient and given a trial dose of six tablets of Orinase before breakfast followed by the usual noon meal. If there is a definite rise in the 4 p.m. blood sugar with sugar and acetone in the urine, or if the blood sugar level is extremely high, even without urinary acetone, a dose of quick acting insulin is given immediately and usually also a dose of longer acting insulin — the total amount to be about 25% more than the customary total daily insulin requirement. The patient is then told that he is unsuitable for Orinase therapy at this time. If however, there has been only a moderate blood sugar elevation at 4 p.m. on the first day and no urinary acetone, the patient is instructed to examine the next morning's urine for both sugar and acetone. If acetone is present, instructions are given to discontinue the Orinase and to take 25% more insulin than usual and to report the urinary findings three times daily until the diabetes is again brought under control. This patient is also told that Orinase therapy is not practicable for him. In a small percentage of patients, the blood sugar will be elevated on the p.m. of the first day but urinary acetone will not be present. If the blood sugar on the first day has not been remarkably high and if no acetone is present on the morning of the second day, another dose of six tablets of Orinase is given. If the p.m. blood sugar on this day is not normal, the patient is instructed to take insulin before the evening meal and is told that he is unsuitable for Orinase therapy. If the blood sugar is normal on the afternoon of the second day as it sometimes will be in a minority of patients with elevated blood sugars on the first day, treatment with Orinase is continued in the routine manner. All patients should be in constant touch with their physician during the attempted change-over and the appearance of acetone is an indication for immediately resuming insulin therapy, usually with a larger dose than is ordinarily required. Using such a regimen as outlined, the writer has had no serious complications. It has always seemed advisable to begin Orinase therapy in the early part of the week when the laboratory is readily available. As far as the test dose of Orinase and its relation to blood sugar and urine analyses are concerned, it should be said that many clinics base their conclusions on the results of these tests done four hours after the test dose. This is a safe, conservative evaluation, but presumably will yield poor results in some patients whose eight hour tests will show a much better response and subsequently do well on the drug.

In an analysis of the summary of the 70 patients treated with Orinase, it will be noted that these were selected patients; in all except number 44 the disease began at forty years of age or older. In the degree of control of the diabetes with Orinase, those rated as good could have been rated as excellent if they had constantly remained on their diet; their laboratory tests, on several occasions, were normal. A few were hospitalized for convenience as they lived out of town but none were subjected to hospital confinement primarily for Orinase therapy. This should have been done, however, with patient number 58 who had a history of previous acidosis but she insisted upon being treated as an office patient.

References in diagram:

(1) Patient was well-controlled for six months when without apparent reason the diabetes went out of control. Insulin quickly restored the metabolic balance. Classified as "secondary failure."

(2) Blood sugar gradually became elevated and heavy urinary sugar appeared following a test dose of Orinase

SUMMARY OF 70 ORINASE TREATED PATIENTS*

Case No.	1	2	3	4	5	6	7	8	9	10
Present Age	78	60	48	46	66	60	66	73	54	73
Age at onset of diabetes	68	60	48	40	60	56	58	73	46	65
Was ketosis ever present?	No	No	No	No	No	No	No	No	No	No
Ht. and Wt. before Orinase	67 in. 164 lbs.	70 in. 182 lbs.	64 in. 138 lbs.	62 in. 151 lbs.	64 in. 140 lbs.	63 in. 162 lbs.	62 in. 135 lbs.	64 in. 148 lbs.	74 in. 167 lbs.	72 in. 192 lbs.
Present Wt.	164 lbs.	184 lbs.	140 lbs.	148 lbs.	136 lbs.	162 lbs.	138 lbs.	146 lbs.	140 lbs.	190 lbs.
Units Insulin before Orinase	34	None	None	30	20	18	None	None	None	20
Daily dose of Orinase	gm. 1	gm. 2	gm. 0.5	gm. 1.5	gm. 1.5	gm. 0.5	gm. 0.5	gm. 1	gm. 1.5	gm. 1
Duration of Orinase therapy	6 mo.	6 mo.	9 mo.	4 mo.	18 mo.	26 mo.	14 mo.	11 mo.	24 mo.	24 mo.
Control of Diabetes Before Orinase	Exc.	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Fair
After Orinase	Exc.	Exc.	Exc.	Good	Good	Exc.	Exc.	Exc.	Exc.	Exc.
Other pathology present	None	None	None	None	None	None	None	None	Coronary Insuff.	None
Complications of Orinase	None	None	None	None	None	None	None	None	None	None
Was Orinase Stopped? Resumed?	No	No	No	No	No	No	No	No	No	No
Primary failure	No	No	No	No	No	No	No	No	No	No
Secondary failure	No	No	No	No	No	No	No	No	No	No
Hypoglycemia	No	No	No	No	No	No	No	No	No	No
Hospitalized for Orinase therapy	No	No	Yes	No	No	Yes	No	No	Yes	No

Case No.	11	12	13	14	15	16	17	18	19	20
Present Age	62	73	78	65	48	54	50	58	60	50
Age at onset of diabetes	60	65	78	50	48	50	50	58	60	50
Was ketosis ever present?	No	No	No	No	No	No	No	No	No	No
Ht. and Wt. before Orinase	74 in. 174 lbs.	63 in. 118 lbs.	66 in. 145 lbs.	68 in. 184 lbs.	64 in. 157 lbs.	60 in. 146 lbs.	57 in. 167 lbs.	61 in. 95 lbs.	66 in. 136 lbs.	66 in. 185 lbs.
Present Wt.	175 lbs.	148 lbs.	145 lbs.	185 lbs.	150 lbs.	144 lbs.	160 lbs.	105 lbs.	140 lbs.	185 lbs.
Units Insulin before Orinase	None	20	None	26	None	26	35	15	0	18
Daily dose of Orinase	gm. 1	gm. 0.5	gm. 1	gm. 1.5	gm. 1	gm. 1.5	gm. 0.5	gm. 0.5	gm. 1.5	gm. 1
Duration of Orinase therapy	26 mo.	14 mo.	4 mo.	21 mo.	18 mo.	8 mo.	11 mo.	24 mo.	14 mo.	8 mo.
Control of Diabetes Before Orinase	Fair	Good	Untreated	Good	Poor	Good	Fair	Exc.	Poor	Good
After Orinase	Good	Exc.	Good	Exc.	Exc.	Exc.	Exc.	Exc.	Exc.	Exc.
Other pathology present	Cerebral thrombosis	None	Coronary insuff.	None	None	None	Coronary Insuff.	None	None	None
Complications of Orinase	None	None	None	None	None	None	None	None	None	None
Was Orinase Stopped? Resumed?	No	No	No	No	No	Yes(1) No	No	No	No	No
Primary failure	No	No	No	No	No	No	No	No	No	No
Secondary failure	No	No	No	No	No	Yes	No	No	No	No
Hypoglycemia	No	No	No	No	No	No	No	No	No	No
Hospitalized for Orinase therapy	Yes	No	No	No	No	No	No	No	No	No

*Since March of this year, when material for this paper was compiled, twenty more selected patients have been treated with Orinase with only one failure.

Case No.	21	22	23	24	25	26	27	28	29	30
Present Age	66	70	61	70	64	68	56	52	72	76
Age at onset of diabetes	58	64	55	65	58	50	54	52	60	70
Was ketosis ever present?	No	No	No	No	No	No	No	No	No	No
Ht. and Wt. before Orinase	60 in. 120 lbs.	73 in. 233 lbs.	67 in. 116 lbs.	64 in. 144 lbs.	72 in. 217 lbs.	63 in. 126 lbs.	67 in. 187 lbs.	70 in. 154 lbs.	68 in. 135 lbs.	67 in. 154 lbs.
Present Wt.	126 lbs.	227 lbs.	116 lbs.	143 lbs.	183 lbs.	136 lbs.	201 lbs.	157 lbs.	140 lbs.	152 lbs.
Units Insulin before Orinase	None	26	30	None	24	36	None	36	None	None
Daily dose of Orinase	gm. 0.5	gm. 1	gm. 4	gm. 1	gm. 1.5	gm. 1.5	gm. 0.5	gm. 0.5	gm. 1.5	gm. 1
Duration of Orinase therapy	26 mo.	12 mo.	3 days	23 mo.	23 mo.	9 mo.	20 mo.	12 mo.	9 mo.	13 mo.
Control of Diabetes Before Orinase	Poor	Fair	Good	Poor	Exc.	Fair	Poor	Poor	Poor	Poor
After Orinase	Exc.	Exc.	Poor	Exc.	Exc.	Exc.	Exc.	Exc.	Exc.	Exc.
Other pathology present	None	None	None	None	None	None	None	Yes (3)	Yes (4)	None
Complications of Orinase	None	None	None	None	None	None	None	None	None	None
Was Orinase Stopped? Resumed?	No	No	Yes (2) No	No	No	No	No	Yes Yes	Yes Yes	No
Primary failure	No	No	Yes	No	No	No	No	No	No	No
Secondary failure	No	No	No	No	No	No	No	No	No	No
Hypoglycemia	No	No	No	No	No	No	No	No	No	No
Hospitalized for Orinase therapy	No	No	No	No	Yes	No	No	Yes	No	No

Case No.	31	32	33	34	35	36	37	38	39	40
Present Age	72	46	75	66	48	71	68	69	65	76
Age at onset of diabetes	60	44	73	63	45	60	59	58	50	74
Was ketosis ever present?	No	No	No	No	No	No	No	No	No	No
Ht. and Wt. before Orinase	65 in. 122 lbs.	65 in. 190 lbs.	68 in. 146 lbs.	63 in. 174 lbs.	69 in. 206 lbs.	63 in. 156 lbs.	69 in. 160 lbs.	69 in. 225 lbs.	59 in. 140 lbs.	70 in. 188 lbs.
Present Wt.	122 lbs.	199 lbs.	146 lbs.	159 lbs.	207 lbs.	160 lbs.	150 lbs.	229 lbs.	137 lbs.	192 lbs.
Units Insulin before Orinase	26	27	15	None	None	20	36	46	18	10
Daily dose of Orinase	gm. 3	gm. 1	gm. 0.5	gm. 1.5	gm. 1.5	gm. 0.5	gm. 0.5	gm. 1	gm. 1	gm. 0.25
Duration of Orinase therapy	2 days	15 mo.	13 mo.	23 mo.	23 mo.	17 mo.	19 mo.	17 mo.	13 mo.	22 mo.
Control of Diabetes Before Orinase	Good	Good	Good	Poor	Poor	Fair	Fair	Fair	Poor	Good
After Orinase	Poor	Exc.	Exc.	Good (6)	Good	Exc.	Exc.	Exc.	Exc.	Exc.
Other pathology present	Yes	None	Coronary Insuff.	None	None	None	None	None	None	None
Complications of Orinase	None	None	None	None	None	None	None	None	None	None
Was Orinase Stopped? Resumed?	Yes (5) No	No	No	No	No	No	No	No	No	No
Primary failure	Yes	No	No	No	No	No	No	No	No	No
Secondary failure		No	No	No	No	No	No	No	No	No
Hypoglycemia	No	No	No	No	No	No	No	No	No	No
Hospitalized for Orinase therapy	No	No	No	No	No	No	No	No	No	No

Case No.	41	42	43	44	45	46	47	48	49	50
Present Age	63	64	72	34	69	64	57	65	82	48
Age at onset of diabetes	57	59	62	28	54	62	55	58	65	48
Was ketosis ever present?	No	No	No	No	No	No	No	No	No	No
Ht. and Wt. before Orinase	63 in. 155 lbs.	71 in. 161 lbs.	66 in. 170 lbs.	69 in. 150 lbs.	67 in. 178 lbs.	57 in. 167 lbs.	70 in. 174 lbs.	66 in. 178 lbs.	67 in. 135 lbs.	64 in. 132 lbs.
Present Wt.	129 lbs.	168 lbs.	135 lbs.	150 lbs.	171 lbs.	168 lbs.	165 lbs.	178 lbs.	137 lbs.	135 lbs.
Units Insulin before Orinase	19	None	28	26	29	None	18	17	18	None
Daily dose of Orinase	gm. 0.5	gm. 1	gm. 1	gm. 3	gm. 1.5	gm. 1	gm. 0.5	gm. 1	gm. 0.25	gm. 1
Duration of Orinase therapy	19 mo.	27 mo.	20 mo.	2 days	12 mo.	21 mo.	27 mo.	15 mo.	14 mo.	13 mo.
Control of Diabetes Before Orinase	Poor	Poor	Fair	Good	Good	Fair	Good	Good	Good	Good
After Orinase	Exc.	Exc.	Exc.	Poor	Exc. (8)	Exc.	Exc.	Exc.	Exc.	Exc.
Other pathology present	None	None	Coronary Insuff.	None	None	None	None	None	None	None
Complications of Orinase	None	None	None	None	None	None	None	None	None	None
Was Orinase Stopped? Resumed?	No	No	No	Yes (7)	Yes	No	No	No	No	No
Primary failure	No	No	No	No	No	No	No	No	No	No
Secondary failure	No	No	No	No	No	No	No	No	No	No
Hypoglycemia	No	No	No	No	No	No	No	No	No	No
Hospitalized for Orinase therapy	No	No	No	No	No	No	No	No	No	No

Case No.	51	52	53	54	55	56	57	58	59	60
Present Age	70	60	74	88	58	69	59	60	58	86
Age at onset of diabetes	55	54	71	55	53	59	57	45	52	86
Was ketosis ever present?	No	No	No	No	No	No	No	Yes	No	No
Ht. and Wt. before Orinase	59 in. 184 lbs.	66 in. 142 lbs.	64 in. 126 lbs.	58 in. 117 lbs.	69 in. 157 lbs.	66 in. 152 lbs.	66 in. 156 lbs.	65 in. 116 lbs.	68 in. 160 lbs.	72 in. 155 lbs.
Present Wt.	178 lbs.	142 lbs.	131 lbs.	115 lbs.	157 lbs.	152 lbs.	155 lbs.	116 lbs.	154 lbs.	159 lbs.
Units Insulin before Orinase	35	None	26	28	29	22	None	36	34	None
Daily dose of Orinase	gm. 1	gm. 1	gm. 0.5	gm. 1	gm. 1	gm. 1	gm. 1.5	gm. 3	gm. 1	gm. 1
Duration of Orinase therapy	14 mo.	13 mo.	27 mo.	27 mo.	15 mo.	27 mo.	15 mo.	1 day	12 mo.	9 mo.
Control of Diabetes Before Orinase	Poor	Poor	Exc.	Good	Good	Fair	Poor	Fair	Good	?
After Orinase	Good	Exc.	Exc.	Exc.	Exc.	Exc.	Exc.	Poor	Exc.	Exc.
Other pathology present	None	None	None	None	Yes (9)	None	None	Bilateral retinitis	None	None
Complications of Orinase	None	None	None	None	None	None	None	None	None	None
Was Orinase Stopped? Resumed?	No	No	No	No	No	No	No	Yes (10) No	No	No
Primary failure	No	No	No	No	No	No	No	Yes	No	No
Secondary failure	No	No	No	No	No	No	No		No	No
Hypoglycemia	No	No	No	No	No	No	No	No	No	No
Hospitalized for Orinase therapy	No	No	No	No	No	No	No	No	No	No

The Achievements of Arist

...in Skin Diseases: In a study of 26 patients with severe dermatoses, ARISTOCORT was proved to have potent anti-inflammatory and antipruritic properties, even at a dosage only ⅔ that of prednisone[1]... Striking affinity for skin and tremendous potency in controlling skin disease, including 50 cases of psoriasis, of which over 60% were reported as *markedly improved*[2]...absence of serious side effects specifically noted.[1,2,3]

...in Rheumatoid Arthritis: Impressive therapeutic effect in most cases of a group of 89 patients[4]... 6 mg. of ARISTOCORT corresponded in effect to 10 mg. of prednisone daily (in addition, gastric ulcer which developed during prednisone therapy in 2 cases disappeared during ARISTOCORT therapy).[5]

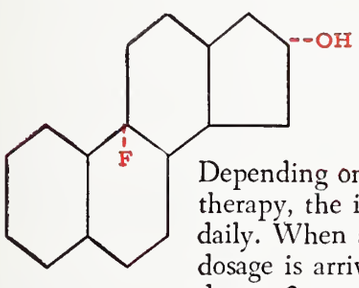
1. Rein, C. R., Fleischmajer, R., and Rosenthal, A. L.: J. A. M. A. *165*:1821, (Dec 7) 1957.
2. Shelley, W. B., and Pillsbury, D. M.: Personal Communication.
3. Sherwood, A., and Cooke, R. A.: Personal Communication.
4. Freyberg, R. H., Berntsen, C. A., and Hellman, L.: Paper presented at International Congress on Rheumatic Diseases, Toronto, June 25, 1957.
5. Hartung, E. F.: Personal Communication.
6. Schwartz, E.: Personal Communication.
7. Sherwood, A., and Cooke, R. A.: J. Allergy 28:97, 1957.
8. Hellman, L., Zumoff, B., Kretshmer, N., and Kramer, B.: Paper presented at Nephrosis Conference, Bethesda, Md., Oct. 26, 1957.
9. Ibid.: Personal Communication.
10. Barach, A. L.: Personal Communication.
11. Segal, M. S.: Personal Communication.
12. Cooke, R. A.: Personal Communication.
13. Dubois, E. L.: Personal Communication.

ocort®

Triamcinolone LEDERLE

...in Respiratory Allergies: "Good to excellent" results in 29 of 30 patients with chronic intractable bronchial asthma at an average daily dosage of only 7 mg.[6]... Average dosage of 6 mg. daily to control asthma and 2 to 6 mg. to control allergic rhinitis in a group of 42 patients, with an actual reduction of blood pressure in 12 of these.[7]

...in Other Conditions: Two failures, 4 partial remissions and 8 cases with complete disappearance of abnormal chemical findings lead to characterization of ARISTOCORT as possibly the most desirable steroid to date in treatment of the nephrotic syndrome.[8,9]... Prompt decrease in the cyanosis and dyspnea of pulmonary emphysema and fibrosis, with marked improvement in patients refractory to prednisone.[10,11,12]... Favorable response reported for 25 of 28 cases of disseminated lupus erythematosus.[13]



Depending on the acuteness and severity of the disease under therapy, the initial dosage of ARISTOCORT is usually from 8 to 20 mg. daily. When acute manifestations have subsided, maintenance dosage is arrived at gradually, usually by reducing the total daily dosage 2 mg. every 3 days until the smallest dosage has been reached which will suppress symptoms.

Comparative studies of patients changed to ARISTOCORT from prednisone indicate a dosage of ARISTOCORT lower by about ⅓ in rheumatoid arthritis, by ⅓ in allergic rhinitis and bronchial asthma, and by ⅓ to ½ in inflammatory and allergic skin diseases. With ARISTOCORT, no precautions are necessary in regard to dietary restriction of sodium or supplementation with potassium.

ARISTOCORT is available in 2 mg. scored tablets (pink), bottles of 30; and 4 mg. scored tablets (white), bottles of 30 and 100.

Lederle LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

Case No.	61	62	63	64	65	66	67	68	69	70
Present Age	74	52	68	64	54	55	56	62	52	65
Age at onset of diabetes	60	52	68	62	51	48	54	49	46	63
Was ketosis ever present?	No	No	No	No	No	No	No	No	No	No
Ht. and Wt. before Orinase	70 in. 220 lbs.	65 in. 119 lbs.	64 in. 143 lbs.	65 in. 120 lbs.	68 in. 179 lbs.	57 in. 137 lbs.	70 in. 192 lbs.	65 in. 159 lbs.	73 in. 169 lbs.	66 in. 149 lbs.
Present Wt.	182 lbs.	119 lbs.	143 lbs.	125 lbs.	176 lbs.	149 lbs.	183 lbs.	159 lbs.	147 lbs.	156 lbs.
Units Insulin before Orinase	18	None	None	None	None	19	None	17	20	28
Daily dose of Orinase	gm. 1	gm. 3	gm. 1	gm. 0.5	gm. 0.5	gm. 1	gm. 1	gm. 1	gm. 1	gm. 0.5
Duration of Orinase therapy	8 mo.	2(12) days	10 mo.	21 mo.	26 mo.	14 mo.	15 mo.	10 mo.	2.5 mo.	27 mo.
Control of Diabetes Before Orinase	Fair	Untreated	Poor	Fair	Poor	Fair	Poor	Fair	Fair	Fair
After Orinase	Exc.	Poor	Fair(13)	Exc.	Poor	Exc.	Exc.	Exc.	Exc.	Exc.
Other pathology present	None	None	None	None	Coronary Insuff.	None	None	None	Yes(14)	None
Complications of Orinase	Yes(11)	None	None	None	None	None	None	None	Yes(14)	None
Was Orinase Stopped?	Yes	Yes	No	No	No	No	No	No	Yes	No
Resumed?	No	No	No						No	
Primary failure	No	Yes	No	No	No	No	No	No	No	No
Secondary failure	No		No	No	No	No	No	No	No	No
Hypoglycemia	No	No	No	No	No	No	No	No	No	No
Hospitalized for Orinase therapy	No	No	No	No	Yes	No	Yes	No	No	No

In the absence of acetonuria, the drug was continued for three days without effect. The patient was again given insulin which readily controlled the diabetes.

(3) On the first office examination, the blood sugar was 500 mgs. Although the patient, a male, was not in acidosis, he was first regulated with insulin and then easily changed to Orinase. Twenty-four hours after leaving the hospital he developed an acute gangrenous gallbladder and was readmitted when the blood sugar was interestingly found to be normal. He underwent surgery and was briefly put on insulin which, after ten days was changed to Orinase and the patient was soon discharged with an uneventful aftercourse.

(4) A sarcoma was removed from the left leg six months ago. Insulin was given during hospitalization but on discharge the usual dose of Orinase was satisfactorily substituted.

(5) Insulin was omitted and three grams of Orinase given on two successive days with steadily mounting blood sugar. Orinase was then discontinued and insulin resumed. This patient who was reasonably well-controlled with insulin for twelve years had a long standing peripheral neuritis which had been stationary for many years.

(6) Patient was well-controlled for over one year until she acquired a severe upper respiratory infection, and although she completely recovered from the infection it has become impossible to keep the blood sugar normal. To be sure, there has been an increase in weight, but this occurred during the first year when the diabetes was under control. Insulin has been advised but so far has been refused. This must be called a "secondary failure."

(7) On two occasions, insulin was stopped and a test dose of Orinase substituted on two consecutive days, followed in each instance by steadily rising blood sugars. Acidosis was absent on both trials but patient was put back on insulin and is well-controlled. It will be noted that the age of onset was only twenty-eight years.

(8) Well-controlled for one year when the diabetes suddenly failed to respond to Orinase. Patient was hospitalized but no cause for failure could be found. Is now under good control with insulin, and is classified as "secondary failure" following Orinase therapy.

(9) Severe peripheral neuritis for one year during which time insulin was given. After recovery, Orinase was successfully substituted for the insulin. (Patient died suddenly two months ago of acute myocardial infarction).

(10) Patient had been in acidosis three years ago and should have been hospitalized for the change-over although the outcome would have been the same. She insisted upon a trial as an office patient and this was done. On the afternoon of the first day of Orinase therapy, she developed a high blood sugar, heavy urinary sugar and acetone. No further Orinase was given and insulin brought the condition immediately under control.

(11) About seven months after having been per-

fectly controlled with Orinase, patient became nervous and slept poorly for which a tranquilizer was prescribed. At this time the blood count, which had been checked weekly, was normal. Satisfactory relief was obtained from the tranquilizer but it was soon noted that the white blood count was slightly lower than normal and the neutrophile count was 45%. Both the tranquilizer and the Orinase were stopped but the white count continued to fall until it reached 2850 with 27% neutrophiles. The red blood count, however, remained normal. The entire blood picture returned to normal at the end of ten days. There were no subjective symptoms and it was interesting to note that the blood sugar did not start to rise until five days after the Orinase was discontinued. Insulin was started at this time and no further attempts to substitute Orinase have been made. Whether the leucopenia was due to Orinase is open to question, but the tranquilizer used was not one that ordinarily produces blood dyscrasias.

(12) This patient, very thin, seen two weeks after a sudden onset of acute symptoms of diabetes without acetone, was given two days trial with Orinase which was ineffective and was then changed to insulin — the maintenance dose of which is 26 units.

(13) Patient responded well to the original test dose of Orinase but her course has been unsatisfactory due to dietary indiscretion.

(14) A businessman who admitted having consumed a large amount of liquor during the last month of Orinase therapy developed mild jaundice after having taken Orinase for ten weeks. He was hospitalized for three weeks, at the end of which time the jaundice disappeared. The clinical and laboratory findings were those of a mild attack of infectious hepatitis. After jaundice was discovered, Orinase was discontinued and insulin given which he is still taking. The jaundice in this instance, however, cannot be definitely classified as a complication of Orinase.

Conclusions

In the development of Orinase, the goal of the investigators to produce an oral preparation as a replacement for insulin has been partly accomplished. Furthermore, it has apparently opened up a new field in investigation to discover other oral preparations which will produce satisfactory results in a larger percentage of diabetic patients. In fact, another drug, phenethylbiguanide (DBI) which is currently undergoing clinical trials has proved to be an effective blood sugar lowering agent and has been successfully used in the younger age groups, but in some clinics disagreeable gastrointestinal symptoms have been reported in as high as 35% of patients.

In the 70 selected Orinase treated patients studied in this group, there were five "primary failures" and three "secondary failures." Orinase was discontinued in 2 other patients due to possible complications of the drug which gives a sum total of satisfactory results in 85.8% of the group. Due to the kindness of the Upjohn Company in supplying Orinase for clinical trial before it was released for general use, it will be noted that some patients have received this drug for over two years.

If one appreciates the limitations, Orinase is an extremely helpful adjunct in diabetic therapy, especially for those patients in the older age groups. It rarely produces severe insulin shock, the side effects are minimal and in the writer's experience, the blood sugar has been more stable than in the insulin treated patients.

12 Deering Street, Portland, Maine

TRITANOPIC TO A BLUE SHIELD — *Continued from page 414*

by providing these Service Benefits, has maintained its hold on the majority of preferred subscribers.

The fee controversy, the income-limit controversy, and the Service-Indemnity controversy could all be eliminated at one time by adopting the "Usual and Reasonable Fee" feature with policing. It would then allow physicians to resume their usual roles of serving the patient, stop wasting adrenalin on useless arguments, and focus their attention solely on the larger, more worthy concepts of Prepaid Health Insurance.

References

1. The Economic Position of Medical Care 1929-53 — F. J. Dickerson and J. Raymond; J.A.M.A. 159 p 41-50.
2. Medical Economics, Sept. V'56; J. W. J. Jordan.
3. National Family Survey of Medical Costs and Voluntary Health Insurance: Olin Anderson of Health Information Foundation. 1956.
4. Department of Commerce, Statistics, quoted. Editorial N.E.J. Med. Feb. 1957.
5. Letter to the Editor, N.E.J. Med. from Charles H. Bradford, Boston, April 3, 1958.
6. Voluntary Health Insurance Progress and Problems, George M. Wheatley, N.E.J. Med. July 18, 1957.
7. Voluntary Prepayment — Medical Benefit Plans — Council on Medical Services A.M.A. 1957.
8. Blue Shield Faces it's Hour of Decision, James E. Bryan — Med. Economics, May 1955.
9. "The Phililoo Bird." Address given to Blue Shield Professional Relations Conference Feb. 1957 by Dr. Leonard J. Raider.
10. Comprehensive or "Single Plan Major Medical" Insurance, Elmer Hess, J.A.M.A. Vol. 166 p-472 Feb. 1, 1958.

704 Congress Street, Portland

SPECIAL ARTICLE

The Physician's Role In The Social Security Disability Program

W. H. McWethy, M.D.*

Doctors, hospitals, institutions, and agencies who have contact with disabled people are frequently asked these days to fill out medical reports in connection with claims under the disability provisions of the social security law. Under these provisions, disabled workers 50 to 65 years of age, and the disabled dependent sons and daughters of retired or deceased workers, may receive monthly disability payments. Disabled workers under age 50 may have their social security records "frozen." This protects the future benefit rights of the disabled worker and his family.

To qualify under these disability provisions, a person must be unable to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment which can be expected to result in death or to be of long-continued and indefinite duration. A disabled worker must, in addition, have social security credits for work in a least five out of the ten years before he became disabled, including a year and a half out of the three years before his disability began. A disabled child must be both unmarried and dependent and must have become disabled before his or her 18th birthday.

Applications under the social security disability provisions are taken by the more than 570 social security district offices, located in communities all over the United States. The social security district office gives the disabled applicant information about his rights, helps him to fill out his application, and to get the proofs and documents he may need to support that application. Under the law, the disabled person is responsible for furnishing, at his own expense, the evidence to show that he is "disabled" within the meaning of the social security law.

His social security district office gives him one or more copies of a medical report form on which this evidence can be supplied. He is asked to take or mail this form to his attending physician or to a hospital, institution, public or private agency where he has been treated for his disabling condition. This report form, designed as a guide for the reporting physician, lists the kind of medical facts essential for the determination of "disability." However, the reporting doctor is not required to use it; if he prefers, he may make his report in the form of a narrative summary or he may submit photocopies of the pertinent medical records. The completed reports are to be returned by mail to the social security district office (or to a State agency, if indicated).

By providing a full and objective clinical picture of his patient, the reporting doctor fulfills his responsibility to his patient and, incidentally, expedites the decision. To be of maximum use for the evaluation of a patient's capacity for work, the report should include a history of the impairment, the symptomatology, clinical findings and diagnosis. Obviously, the reporting physician has an important role in the operation of the social security disability provisions. He is not, however, asked to decide the issue of "disability." The determination as to whether a patient is "disabled" must be made within the scope of the social security law; often it is based on evidence from more than one medical source. Also the determination must take into account factors which are not purely medical — factors such as education, training and work experience.

After the applicant has filed his claim under the disability provisions, and furnished the supporting evidence, his case is forwarded by his social security district office to an agency of his State — usually the State vocational rehabilitation agency. Under agreements between the individual States and the Federal Government, these State agencies make the disability determinations for their own residents.

In the State of Maine, the agreement with the Federal Government provides for the Vocational Rehabilitation Division to make these disability determinations.

The evaluation of disability is made by a "review team" in the State agency. There are at least two professional people on each team. One of the two is a doctor of medicine (often a practicing physician who

*Medical Consultant, Disability Determination Unit, Vocational Rehabilitation Division, Department of Education.

serves with the State agency on a part-time basis); the other is trained in evaluating the personal and vocational aspects of disability. The team must decide whether the applicant is sufficiently disabled to prevent him from engaging in any substantial gainful activity within the foreseeable future.

In many cases it is necessary to write back to the reporting physician because the medical report does not contain enough clinical facts. As a rule, the kinds of medical facts that the attending physician needs in making his diagnosis and in treating his patients are the same as those required to evaluate the severity of impairments in disability programs. However, certain medical facts are more highly significant in disability evaluation than to medical management of the case. To evaluate the effect of the impairment on the individual's ability to work requires the kind of medical evidence that confirms the diagnosis and measures remaining functional capacities of mind and body. By furnishing complete and objective evidence, the reporting physician makes it unnecessary for the reviewing physician to "write back" for additional clinical or laboratory data.

Where the medical evidence initially submitted indicates a reasonable likelihood that the applicant is disabled, but more precise clinical or laboratory findings are needed to arrive at a sound decision, or to resolve conflicts in the evidence, a consultative examination (usually at the specialist level) may be ordered to obtain additional information. Selection of consulting physicians and payment of fees are governed by State practices.

Some doctors feel that they should be reimbursed by the Government for the cost of preparing the medical reports on their patients, and it is, of course, quite within their prerogative to charge the patient a fee for that service. However, under the law, the Social Security Administration cannot pay that fee; that is the individual's responsibility.

Other doctors are perturbed when asked to complete medical reports for individuals whom they may not have seen for years. In these cases, however, the psysician is not expected to describe the present condition of the patient, but his medical condition as of the time he made his last examination. Although the social security disability provisions were made applicable to persons whose disabilities may have begun as far back as 1941, all those with long-standing disabilities must apply before July 1, 1959. After June 1959, therefore, this problem should be much relieved.

Evaluation of Disability

The central purpose of disability evaluation is to determine remaining mental and physical capacities. To determine: (1) what the claimant has left, and (2) what he can do with what he has left.

A realistic evaluation of disability must be based on clinical and laboratory tests of the individual's ability to meet the metabolic demands of activity, to reason, to perceive, and to perform certain basic activities such as sitting, standing, bending and walking. When incapacity results from severe impairment of one or more such functions, it is essential to establish not only the fact that functional impairment exists, but also its extent.

A brief discussion of disability from heart disease may serve to illustrate the kind of evidence needed to measure the patient's remaining functional capacity, after appropriate therapy. Most frequently, impairments of the circulatory system produce loss of bodily function by reduction of cardiac reserve, or interference with peripheral vascular circulation. As a result the circulatory apparatus cannot meet effectively the metabolic demands placed upon it. The diagnosis of the condition usually reflects whether the impairment is caused by valvular disease, myocardial damage or vascular pathology.

Cardiac size by X-ray or physical and EKG findings furnish objective proof of cardiac pathology. The amount of dyspnea or angina described in terms of the number of steps that can be mounted or distance in feet or blocks that the patient can walk is highly significant to evaluation of the degree of loss of function. The presence or absence of cardiac edema and response to therapy are also indicative of severity of cardiovascular impairments. The status of the pulse in the peripheral vessels may provide gross clinical evidence of impaired circulation of the extremities.

Impairments of the cardiovascular system may manifest themselves with dramatic suddenness, e.g., myocardial infarction, obstruction of vessels in peripheral or central nervous system circulation, lungs, and other visceral organs. The initial clinical manifestations are severe and the prognosis dubious. With survival from the acute stage, and appropriate therapy, substantial improvement can be expected over a period of time. A realistic evaluation of remaining function should be made after the convalescent period. Hence, the clinical and laboratory findings after maximum improvement from treatment are particularly valuable in making a determination of remaining cardiac, brain or other function. (Note that a "waiting period," is prescribed by law, i.e., the first monthly disability insurance benefit cannot be paid until the seventh month after the onset of the disability.) A description of the acute attack helps confirm the diagnosis and should therefore be included in the report.

Loss of function is evaluated on the basis of clinical and laboratory findings after maximum benefit from treatment. Clinical information concerning nature and response to treatment furnishes information on stability of functional capacity, i.e., a history of periodic decompensated heart disease, in spite of treatment, would indicate a comparatively severe condition.

More complicated tests of vascular function may be required in certain cases, e.g., arteriography. The reporting physician should not be concerned because he

may not have equipment to perform these tests. A carefully performed exercise tolerance test (if not medically contraindicated) will almost always provide the clinical evidence needed to evaluate the degree of remaining function.

Conclusion

In developing valuation guides for the use of the State agency and its own technical and professional personnel, the Social Security Administration has had the continuing cooperation of a Medical Advisory Committee appointed by Commissioner Schottland, in February 1955. The Committee is composed of recognized specialists associated with medical and allied professions in various fields outside Government, such as general practice, research, medical education, industry and labor.

The American Medical Association has cooperated with the Social Security Administration by informing its members about the medical aspects of the disability program, especially the preparation of medical reports. On June 1, 1957, the Journal of the American Medical Association carried a comprehensive report on the administration and organization of the disability provisions. Regulations on the meaning of disability appeared in the September 28, 1957 issue.

The operational policies of the Disability Determination Unit of the State of Maine have been reviewed by the Council of the Maine Medical Association and it is planned that any changes in policy will be discussed with the council prior to change.

31 Western Avenue, Augusta

Note: Copies of "Strike Back at Stroke," the pamphlet which was sent to each member, are available. A postcard to the office of the Maine Medical Association (P.O. Box 240, Brunswick, Maine) will get you additional copies while they last.

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D.	Togus	Fourth District, JAMES E. POULIN, M.D.	Waterville
Second District, WALDO A. CLAPP, M.D.	Lewiston	Fifth District, MARCUS A. TORREY, M.D.	Ellsworth
Third District, RALPH P. EARLE, M.D.	Vinalhaven	Sixth District, RICHARD C. WADSWORTH, M.D.	Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville PEARL R. FISHER, R.N., Waterville

Across The Desk

First Coal, Now Steel May Enter Medical Care Field

Within the next few weeks, the executive board of United Steelworkers of America will meet to form a special committee to look into the feasibility of an ambitious project — establishment of a system of hospitals and clinics comparable to that of United Mine Workers. Taking of this preliminary step was authorized at union's national convention recently in Atlantic City.

UMW's Welfare & Retirement Fund is financed by mine operators' 40-cents-a-ton contribution. A parallel program for steel workers would also be paid for in full by the employers. At present they share equally with labor the cost of health insurance premiums.

Medical Issues Brought To Fore By Crusaders

The past week was one of unusually interesting developments on political, economic and social sides of medicine. While none of them actually originated in Washington, all bore the Capital trademark in one way or another. Too, all were directly or indirectly linked with makeup of the new Congress and future policy of Eisenhower Administration on health and medical legislation.

"Give Us U. S. Funds"

In his presidential address at Philadelphia, opening the 69th annual meeting of the Association of American Medical Colleges, Dr. Lowell T. Coggeshall said the time has arrived for the Treasury to help defray operating expenses of medical schools, as well as subsidize physical plant improvements. The University of Chicago medical dean minimized fears of Federal control sequelae.

While the Coggeshall stand does not bind AAMC, its executive council has authorized the staff to launch a one-year comprehensive study of the costs of financing of medical training. Data will be ready for Congressional inquirers.

Augusta State Hospital Accredited

The Augusta State Hospital has been fully accredited for the first time by the American Psychiatric Association, Dr. Francis H. Sleeper, superintendent, announced.

This long-sought recognition is due to increases in personnel and to the construction of new buildings authorized by past legislatures.

AMA & AAPS Draw Fire Of Murray In Senate

The octogenarian Senator James E. Murray drew a bead again last week on his old adversary — AMA. He accused it of inconsistency, if not worse, in fighting Federal aid to elementary education while supporting government subsidies for medical school construction. The Montana Democrat said: "I know that the vast majority of men who have taken the Hippocratic oath hold to a code of ethics far above that of the organization which purports to speak for them."

If Senator Murray can substantiate his charge that

AMA is an opponent of Federal aid, he did not do so in his speech on the floor of the Senate. His criticism of the vituperative Association of American Physicians and Surgeons is understandable. It is more difficult to comprehend why Senator Murray went ahead with his speech attacking AMA even after receiving advance notification from its Washington office that the association is *not* recorded as a foe of Federal aid to public school education.

"Doctors Do Us Wrong"

Also in Philadelphia, the Pennsylvania State Medical Association heard David McDonald, president of United Steelworkers, charge organized medicine with attempting to check his union's progress. His remarks, made in a "third party" panel discussion, lent further credence to union's reported plans to establish its own hospital and medical care program in style of United Mine Workers.

35,000 Physicians Take Graduate Training

More than 35,000 physicians last year took graduate medical training in 1,400 American hospitals, it has been reported.

According to the 32nd annual report on graduate medical education prepared by the American Medical Association's Council on Medical Education and Hospitals, the number of medical school graduates taking further training continued to increase in 1957-58.

There were 10,198 graduates serving internships in 1957-58, an increase of 305 over 1956-57, while 24,976 were serving residencies, an increase of 1,964 over the preceding year. The number of hospitals offering training increased from 1,372 to 1,400.

The annual report and an accompanying directory of approved internships and residencies serves two groups of individuals, according to an editorial in the October 4 AMA Journal, in which the report appears.

"It is useful to the recent graduate in medicine who is planning his further graduate training program," the editorial said. "It is of equal or greater use to training program directors and medical administrators dealing with broad aspects of graduate training and concerned with program trends and planning for the future."

Of the available internship positions, only 17 per cent remained unfilled. Eighteen per cent of the residency positions were not filled, the report said. Many internship positions are filled by graduates of foreign medical schools.

The report also showed:

The average number of intern positions for each hospital has increased during the past ten years from 11.3 to 14.2.

Rotating internships, which must include training on the medical, surgical, pediatric and obstetric services, accounted for 87.6 per cent of the internships offered. The others were either straight internships in one field or mixed in two or three fields.

Church and nonprofit incorporated hospitals offered 79.9 per cent of the available internships; federal hospitals, 4.7 per cent; nonfederal governmental, 15.3 per cent, and proprietary (private), 1 per cent.

The federal hospitals had the highest rate of occupancy, with the Navy and U. S. Public Health Service hospitals having no vacancies.

Hospitals in the United States territories and possessions and those in New England showed the highest rate of occupancy — 88 per cent. The region having the lowest rate was the East South Central with 75 per cent.

States with an occupancy rate of 90 per cent or above were New Hampshire, District of Columbia, New York, Colorado, Connecticut, Iowa and New Jersey.

The average monthly cash stipend paid to interns continued to rise. Hospitals affiliated with teaching institutions raised their stipends from an average of $141 in 1956-57 to $155 in 1957-58. Nonaffiliated hospitals raised theirs from an average of $177 to $197.

Residency training was offered in 26 specialties and in general practice. Residencies in contagious diseases and malignant disease have been discontinued.

Approximately one-third of all residencies were offered in surgery, internal medicine and obstetrics-gynecology. Residencies in aviation medicine, dermatology, obstetrics-gynecology, ophthalmology and surgery showed an occupancy rate of 90 per cent or higher.

Medicare Explains "Residing With Sponsor" Status Of Dependents

The Office for Dependents' Medical Care, responding to inquiries, has explained the eligibility status of dependents who reside apart from their sponsors at the time medical care begins, but rejoin the sponsor after completion of treatment. "As a general rule, such care may be continued (from civilian sources) without a medicare permit," ODMC states.

Readmission to a hospital is authorized within 14 days following discharge without a permit. However, in a maternity case, the wife rejoining her spouse during treatment is not eligible for continued civilian care (without a permit) if she changes her physician for any reason other than death or illness of the doctor.

Medical Societies Ask Federal Guidance And Assistance

The missing elements in civil defense today are stimulation, guidance and assistance from the federal level in the view of state medical society representatives meeting in OCDM Region I in Boston on September 13, 1958 with the AMA Committee on Civil Defense. The medical societies of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island

and Vermont, as well as the woman's auxiliaries of Maine, Massachusetts and Rhode Island, were represented. Reports from the states ranged from that of an active civil defense with detailed plans in Maine to New Jersey's "utter flop" notwithstanding an excellent civil defense law.

Greater participation in medical civil defense affairs and civil defense generally is most urgently needed it was agreed. It was felt that the apathy of not only the general public but also some medical and paramedical personnel could be overcome at least to some extent by greater federal participation. Standing operating procedures and standardized terminology would be most helpful and welcome, especially in regional civil defense planning.

Unusual Fingernail Condition Reported

Wearing rubber gloves and using a detergent while scrubbing pans may damage the fingernails.

Three cases of hemorrhage under the nails of men who washed pans in a hospital kitchen were reported by Dr. Peter I. Long, Jr., Dayton, Ohio.

Writing in the November 1 Journal of the American Medical Association, he said the primary causes of the condition appeared to be injury from scrubbing and a change in the acidity of detergent solution trapped in the gloves.

Prompt recognition of the lesions and elimination of the offending agent is necessary, he said, to prevent extensive nail bed damage.

Further study is needed to determine the exact cause of the condition since its occurrence could have medical and legal significance if the cosmetic and functional impairment were severe.

In arriving at the cause of the condition, Dr. Long said in his preliminary report that several factors stood out. They are:

Pan scrubbing entails a lot of hard scouring which would have a tendency to separate the nail from the nail bed injuring the tissue.

Only men who wore rubber gloves developed the condition, although they showed no sensitivity to rubber.

The washing solution that became trapped in the gloves was more acid than that in the sink, possibly because perspiration became mixed with it.

Only men who had worked as pan washers for a short time developed the hemorrhages. The fact that they were not accustomed to the work may be an important factor, Dr. Long said. He does not believe that the hemorrhages resulted simply from injury to the tissue. If injury were the only cause, there would be more cases.

Washington BS Studying Low-Cost Insurance For Aged And Low Income

The Washington, D. C., area Blue Shield organization, at the request of the District of Columbia Medical Society, is studying the possibility of setting up a separate medical-surgical care plan for low-income groups, *including the aged*, that would provide the regular benefits but at a reduced premium. Dr. Donald Stubbs, Washington BS president and chairman of the national Blue Shield board of directors, said the income cutoff point couldn't be estimated until it was learned how many subscribers would be covered. However, he thinks the maximum family income to qualify would be about $3,000. Hospitalization would not be covered.

An outline of the proposal has been sent to the six medical societies in the Washington area for their consideration, and Dr. Stubbs says he has heard "nothing unfavorable." At present the Washington Blue Shield has one income cutoff point, $6,000. Premiums average $4.94 a month per family and $1.56 per individual. Because the new low-cost plan is merely in the development stage, no premiums have been decided upon.

Dr. Stubbs said somewhat similar arrangements exist in some other parts of the country, having evolved over the years as higher income groups have been charged higher premiums. Some plans, he explained, have as many as seven separate premium rates, based on income. He is not aware of any other plan that has attempted to handle the problem of insurance for the low-income group by arbitrarily setting up a new and lower classification as proposed for Washington.

New Guide To Measure Visual Impairment Published

A set of uniform standards for measuring visual loss and its effect on a person's ability to perform daily activities is being published by the American Medical Association.

For years doctors and laymen have tried to answer the questions: How does a visual deficiency influence a person's ability to live a normal life? How can the degree of impairment of this ability be measured?

The new guide "seeks to provide a simplified method for determining visual impairment and the extent of its effects on an individual's ability to perform the activities of daily living," according to an editorial in the September 27 A.M.A. Journal, in which the guide appears.

It is the second one prepared by the A.M.A. Committee on Medical Rating of Physical Impairment. The first, published in February, dealt with the back and extremities. Others will deal with the cardiovascular system, respiratory conditions and other body systems.

The guide was prepared by the committee, which is headed by Dr. Raymond M. McKeown, Coos Bay, Oregon with the assistance of three consultant ophthalmologists. They are Drs. Ralph W. Danielson, Denver, Charles E. Jaeckle, East Orange, New Jersey and Harold G. Scheie, Philadelphia.

FALL CLINICAL SESSION OF THE MAINE MEDICAL ASSOCIATION

Portland, Maine — December 13, 1958

RALPH HEIFETZ, M.D., *President,* Cumberland County Medical Society, Chairman

MORNING SESSION

MERCY HOSPITAL AUDITORIUM

9:30 A.M. **Registration**

10:00 A.M. **"The Treatment of Hyperthyroidism"** — Panel
ISAAC M. WEBBER, M.D., Portland, Moderator
BENTLEY P. COLCOCK, M.D., Surgeon, Lahey Clinic, Boston
STANLEY E. HERRICK, JR., M.D., Portland
IRVING I. GOODOF, M.D., Waterville

12:00 NOON **Luncheon** — Mercy Hospital
Remarks by DANIEL F. HANLEY, M.D., Executive Director, Maine Medical Association

AFTERNOON SESSION

MAINE MEDICAL CENTER

Alida Leese Hall

1:30 P.M. **Registration**

1:45 P.M. **"The Management of Acute Upper Gastrointestinal Tract Hemorrhage"** — Panel
CLAUDE E. WELCH, M.D., Boston, Moderator
JAMES M. PARKER, M.D., Portland
JOHN F. GIBBONS, M.D., Portland
WALDO A. CLAPP, M.D., Lewiston
SETH H. READ, M.D., Belfast

3:15 P.M. **Coffee Break**

3:30 P.M. **"Diagnoses of the Acute Abdomen"**
JOSEPH TARTAKOFF, M.D., Associate Clinical Professor of Surgery, Tufts University School of Medicine

Program Committee

GERALD C. LEARY, M.D.
JOHN F. GIBBONS, M.D.
FRANCIS X. MACK, M.D.
GEORGE F. SAGER, M.D.
RALPH HEIFETZ, M.D., ex-officio

EVENING PROGRAM

5:30 to 9:30 P.M. **Cocktail Dance**
Mayfair Room, Lafayette Hotel
(Music by Jimmy Hansen and his orchestra. Cocktails — Dutch treat. Roast Beef Dinner — $4.00 per person, including tax and tip.)

NOTES

1. Four hours Category I Credit Applied for American Academy of General Practice.

2. The Woman's Auxiliary to the Maine Medical Association, who are meeting in conjunction with the Maine Medical Association, are in charge of the evening program. A reservation card for this event is being mailed to the wife of each member of the Maine Medical Association — this card to be returned not later than December 8. Doctors' wives who are not members of the Auxiliary are also invited to attend the daytime sessions.

THE WOMAN'S AUXILIARY TO THE MAINE MEDICAL ASSOCIATION

Saturday, December 13, 1958

LAFAYETTE HOTEL, PORTLAND, MAINE

Colonial Room

9:30 A.M.—Registration

9:30 to 10:00 A.M.—Coffee and doughnuts

10:00 A.M.—Executive Board Meeting

12:30 P.M.—Luncheon ($2.26 per person, including tax and tip)

2:00 to 4:30 P.M.—Workshop

Notes

It is expected that the President of the National Auxiliary, Mrs. E. Arthur Underwood of Vancouver, Washington, will be present for the entire session and that she will conduct the workshop.

Doctors' wives, who are not members of the Auxiliary, are cordially invited to attend all activities with the exception of the Board Meeting at 10:00 A.M. which will be in an upstairs parlor, leaving the Colonial Room available for the use of non-members.

This meeting is being held in conjunction with the Fall Clinical Session of the Maine Medical Association — the evening program to be a purely social event for the members of the Maine Medical Association and their wives. Program on opposite page.

Program Committee

Program arranged by the Auxiliary Committee on Arrangements consisting of the following members:

Co-Chairmen

Mrs. Sidney R. Branson
Mrs. Howard M. Sapiro

Committee Members

Mrs. Ralf Martin
Mrs. Albert Aranson
Mrs. Stanley B. Sylvester
Mrs. Ralph Heifetz
Mrs. Philip G. Good
Mrs. Robert H. Pawle
Mrs. Morton McMichael
Mrs. Harris Hinckley
Mrs. Philip S. Fogg
Mrs. Warren C. Baldwin
Mrs. George F. Sager

Ex-officio Members:

Mrs. Linus J. Stitham, President, M.M.A. Auxiliary

Mrs. Robinson L. Bidwell, President, Cumberland County Auxiliary

State of Maine

Department of Health and Welfare

DEAN H. FISHER, M.D.
COMMISSIONER

Therapy Of The Nephrotic Syndrome*

FRANCIS X. FELLERS, M.D.**

Steroids presently are the mainstay of the therapeutic regimes of the nephrotic syndrome. Supportive methods are important since not all exacerbations may be suitable for steroids.

PATIENT SELECTION

The initial episode regresses spontaneously with conservative rest and therapy of infection in about half of the patients. If the process is progressive for four weeks, a course of ACTH is given in the hospital. Exacerbation is considered for repeat ACTH course only after a three-month lapse from previous ACTH courses.

GENERAL CONTRAINDICATIONS FOR ACTH

1. Current or recent infections, including incubation period of viral diseases.
2. Hypertension, blood pressure over 130/90, although with adequate response to anti-hypertensive therapy, a trial of ACTH may be considered.
3. Significant azotemia, NPN over 50 mg%, moderate acidosis, marked hypotonicity.
4. Massive edema where a weight gain of 2 Kg. might not be tolerated without respiratory embarrassment.
5. Antibiotics — Tetracyclines are given because of their broad-spectrum bacterio-static action in a dosage of 750 mg/meter^2/24 hours in divided dosage.
6. Potassium chloride, soluble tablets (not enteric coated) 30-60 mEq/meter^2/24 hours in divided dosage.
7. Diet — High carbohydrate, moderate protein, with 800-1000 mg of salt. Fluids restricted to 750-1000 ml/day. Extra vitamins.
8. Bed rest for first few days, with limited activity thereafter if the blood pressure is normal. Semi-isolation is observed in private rooms or metabolic ward.

PROCEDURE

1. Hospitalization and work-up including baseline blood analyses, urinalyses, addis count, creatinine clearances.
2. ACTH-gel in dosage 150 units/meter^2 body surface area/day for 12 days in 2 divided injections in upper arm muscles.

OBSERVATIONS DURING TREATMENT

Blood pressure pre-ACTH injection and every 6 hours.
Daily weight.
Measured intake and output.
Urine analysis three times a week.
Stool guaiac twice a week.
Twenty-four-hour urine protein every four days.
Blood analyses — NPN, Na, K, every four days: CO_2, Cl, Ca, P during diuresis: total protein and cholesterol prior to discharge.

COMPLICATIONS

May Necessitate Stopping ACTH

Infection — Unusual increase in WBC, etc. — a change in antibiotics to penicillin-streptomycin or Chloromycetin.®
Blood pressure rise — early prophylactic treatment may control (Serpasil® .07 mg/kg, Apresoline® 10-50 mg/day, Diuril® 125-250 mg/day).
Continuing increase in NPN or lowering Na.
Convulsions.
Personality changes.
Hypokalemic, hypomagnesemic alkalosis during diuresis.

MAINTENANCE THERAPY

1. Prophylactic antibiotics — Tetracyline daily and prompt treatment of infections, omit steroid.

(*Continued on page* 440)

*Presented by Dr. Fellers in conjunction with his talk on the subject of "Nephrosis and Related Kidney Conditions" as part of the proceedings of the 9th Annual Pediatric Institute for General Practitioners held at the Central Maine General Hospital, Lewiston, on September 22. The Institute is sponsored by the Division of Maternal and Child Health of the Department, and endorsed by the Maine Medical Association. Other subjects presented and discussed at the Institute were: clinical, diagnostic, and pathological aspects of cystic fibrosis: endocrine aspects of the short and tall. It is planned to carry in subsequent issues of the "Journal" highlights of the Institute proceedings as they relate to the above subjects.

**Instructor, Harvard Medical School; Research Associate in Pediatrics, Children's Hospital, Boston, Massachusetts.



when psychic symptoms distort the picture

Dartal helps the patient reintegrate his mental processes

In everyday office practice as well as under hospital conditions Dartal is consistent in its effects as few tranquilizers are.

Dartal promotes emotional balance

Dartal effectively decreases or relieves emotional hyperactivity and psychomotor excitement.

Dartal is unusually safe

At a recent symposium, leading hepatologists* concluded that Dartal is not icterogenic or hepatotoxic.

Dartal is effective at low dosage

One 2-mg. tablet q.i.d. or one 5-mg. tablet t.i.d. in neuroses; one 10-mg. tablet t.i.d. in psychoses.

a superior psychochemical
for the management of both major and minor emotional disturbances

Dartal®

dihydrochloride — brand of thiopropazate dihydrochloride

*A Symposium on the Pharmacologic Effects of Dartal on the Liver, Chicago, Searle Research Laboratories, Feb. 7, 1958.

SEARLE

Maine Medical Association

SPECIAL COMMITTEES — 1958-59

The following Special Committees for 1958-1959 have been appointed by the President, Eugene E. O'Donnell, M.D., of Portland

Amy W. Pinkham Fund Committee

Norman H. Nickerson, M.D., Greenville, Chairman
Virginia C. Hamilton, M.D., 900 Washington St., Bath
Albert M. Carde, M.D., 33 Elm St., Milo
Thomas A. Foster, M.D., 131 State St., Portland
Ella Langer, M.D., State House, Augusta
Philip G. Good, M.D., 38 Deering St., Portland

Diabetes Committee

Elton R. Blaisdell, M.D., 12 Deering St., Portland, Chairman
John S. Houlihan, M.D., 209 State St., Bangor
Paul J. LaFlamme, M.D., 78 Pine St., Lewiston
Robert G. MacBride, M.D., 25 Washington St., Lubec
Vaughn R. Sturtevant, M.D., 33 College Ave., Waterville
Robert A. Graves, M.D., 3 Green St., Fort Fairfield
Richard S. Hawkes, M.D., 47 Deering St., Portland

Committee On Maternal & Child Welfare

Frank W. Kibbe, M.D., 22 White St., Rockland, Chairman
Alice A. S. Whittier, M.D., 143 Neal St., Portland
Clair S. Bauman, M.D., 159 Silver St., Waterville
Virginia C. Hamilton, M.D., 900 Washington St., Bath
William B. O'Sullivan, M.D., 331 Main St., Saco
Philip B. Chase, M.D., 36 Main St., Farmington

Arthritis Committee

Philip P. Thompson, Jr., M.D., 704 Congress St., Portland, Chairman
Allan J. Stinchfield, M.D., 16 E. Chestnut St., Augusta
Robert O. Kellogg, M.D., 316 State St., Bangor
Charles R. Glassmire, M.D., 58 Deering St., Portland

Committee On Conservation Of Vision

Dexter J. Clough, 2nd, M.D., 224 State St., Bangor, Chairman
Howard F. Hill, M.D., 33 College Ave., Waterville
Paul Maier, M.D., 723 Congress St., Portland
Paul E. Floyd, M.D., 2 Middle St., Farmington
Otis B. Tibbetts, M.D., 33 Court St., Auburn
Ralph A. Goodwin, Jr., M.D., 33 Court St., Auburn

Committee On Mental Health

Francis H. Sleeper, M.D., State Hospital, Augusta, Chairman
Nicholas Fish, M.D., 235 State St., Portland
Frank S. Broggi, M.D., 18 Neal St., Portland
Jerome W. Bergmann, M.D., 255 Western Promenade, Portland
Harold A. Pooler, M.D., State Hospital, Bangor

Veterans' Affairs Committee

William C. Burrage, M.D., 57 Deering St., Portland, Chairman
Robert L. Ohler, M.D., Veterans Administration, Togus
Lorrimer M. Schmidt, M.D., Veterans Administration, Togus
H. Draper Warren, M.D., Caribou Clinic, Caribou
Carl E. Dunham, M.D., 188 State St., Portland

Committee On Industrial Health

Albert P. Royal, Jr., M.D., 82 Maine Ave., Rumford, Chairman
Albert A. Darche, M.D., 782 Main St., Westbrook
Edwin W. Harlow, M.D., 177 Main St., Waterville
Niles L. Perkins, Jr., M.D., Oxford Paper Co., Rumford
Eugene P. Wolfahrt, M.D., 338 Main St., Saco

Committee On Alcoholism

Gilmore W. Soule, M.D., 22 White St., Rockland, Chairman
Paul A. Jones, M.D., Union
Melvin R. Aungst, M.D., Morneault Bldg., Fort Kent

Maine Committee — American Medical Education Foundation

Thomas F. Fay, M.D., 98 Winthrop St., Augusta, Chairman
Eustache N. Giguere, M.D., 90 Webster St., Lewiston
L. Armand Guite, M.D., 45 Elm St., Waterville

Committee On Aging

George J. Robertson, M.D., 33 College Ave., Waterville, Chairman
Charles A. Hannigan, M.D., 85 Goff St., Auburn
Vaughn R. Sturtevant, M.D., 33 College Ave., Waterville
Charles R. Glassmire, M.D., 58 Deering St., Portland
Robert O. Kellogg, M.D., 316 State St., Bangor
Brinton T. Darlington, M.D., Westwood Rd., Augusta
Harry M. Helfrich, Jr., M.D., 555 Main St., Presque Isle
Leon R. Jellerson, M.D., Elm St., North Berwick

School Health Committee

Robert F. Ficker, M.D., Maine St., Kennebunkport, Chairman
Norman E. Dyhrberg, M.D., 323 Main St., Cumberland Mills

Multidisciplinary Group

Paul S. Hill, Jr., M.D., 323 Main St., Saco

Committee On Civil Defense

Charles W. Steele, M.D., 472 Main St., Lewiston, Chairman
Harry Butler, M.D., 77 Broadway, Bangor, Deputy Chairman

District Members

1st — Ralph A. Getchell, M.D., 690 Congress St., Portland
2nd — Ralph A. Goodwin, Sr., M.D., 56 Denison St., Auburn
3rd — Edward K. Morse, M.D., 22 White St., Rockland

4th — Allan J. Stinchfield, M.D., 16 E. Chestnut St., Augusta
5th — James H. Crowe, M.D., 121 Main St., Ellsworth
6th — Richard C. Wadsworth, M.D., 489 State St., Bangor

Members-at-Large
Gilbert Clapperton, M.D., 300 Main St., Lewiston
Clark F. Miller, M.D., 46 Madison St., Auburn
Clyde I. Swett, M.D., 18 Sherman St., Island Falls
Dean Fisher, M.D., State House, Augusta
Frederick T. Hill, M.D., Thayer Hospital, Waterville

Blood Transfusion Committee Members
Charles F. Branch, M.D., Central Maine General Hospital, Lewiston
Franklin F. Ferguson, M.D., 22 Arsenal St., Portland
Nelson P. Blackburn, M.D., 489 State St., Bangor

Necrologies

William H. Bradford, M.D.

1866-1958

William H. Bradford, M.D., 92, of Portland died August 21, 1958.

Dr. Bradford was a member of the American Medical Association, the American College of Surgeons and a Diplomate of the American Board of Surgery. A Past President of the New England Surgical Society, he was an Honorary Member of the Maine Medical Association and the Cumberland County Medical Society and received a 60-year medal in 1951. He had also served as President of the Cumberland County Medical Society and the Portland Medical Club.

Dr. Bradford was born in Lewiston, January 1, 1866, the son of Herbert Cary and Julia Fales Bradford. He attended Lewiston public schools; Bates College and graduated from Bowdoin College in 1888. He received his medical degree from the Medical School of Maine in 1891. He did post-graduate work at New York Post-Graduate Medical School and at the Maine General Hospital. His internship at the Maine General Hospital was during the period when the germ theory of infection in surgical wounds was just beginning to be accepted by the medical profession.

He served on the surgical staff of the Maine General Hospital and became chief of surgery in 1928. His contributions during his period of service were many — among them the modernization of the X-Ray Department and the reorganization of the Surgical Department in 1928 when the Board of Directors separated the combined hospital staff into six departments. He was also on the consulting staffs at the Children's Hospital, the Webber Hospital in Biddeford and the Bath City Hospital.

From 1905 through 1919, Dr. Bradford was associated with the Medical School of Maine as instructor, assistant professor and professor of Clinical surgery.

During World War I he was chairman of the Medical Advisory Board for Cumberland County.

He was Fleet Surgeon for the Portland Yacht Club and a member of the Portland Country Club.

Surviving are his widow, the former Minnie Elizabeth Douglas of Portland; George K. Bradford, of Falmouth Foreside, a son by a former marriage and two grandchildren.

H. Louella Noyes, M.D.

1888-1958

H. Louella Noyes, M.D., of Rumford, died August 18, 1958.

Dr. Noyes was born in Fremont, New Hampshire in 1888, the daughter of Alonzo C. and Dr. Laura Fellows Noyes. In 1911 she received her medical degree from the College of Physicians and Surgeons in Boston. She practiced medicine in Rumford for nearly half a century.

She was a member of the American Medical Association, the Maine Medical Association and the Oxford County Medical Society. In 1957 she received a civic award for community service at a testimonial dinner given by the Rumford Lions Club.

Dr. Noyes served on the staff of the Rumford Community Hospital. She was a member of St. Barnabas Episcopal Church.

Surviving are her twin sister, Mrs. Claude Gilpatrick, Gartineau, Quebec and another sister, Mrs. M. J. Brooks of Rumford.

County Society Notes

ANDROSCOGGIN

September 24, 1958

The September meeting of the Androscoggin County Medical Society was held at the Picnic Grounds in West Auburn. John A. James, M.D., of Auburn was in charge of arrangements.

Paul J. LaFlamme, M.D., of Lewiston, President of the county society, called the meeting to order. There were 29 members present.

Philip L. Archambault, M.D., of Lewiston, who has been taking a postgraduate course in Orthopedics for the past three years, was re-elected to membership.

A delicious barbecued chicken supper and games followed the meeting.

DONALD L. ANDERSON, M.D.
Secretary

HANCOCK

October 8, 1958

The Hancock County Medical Society met at the Hancock House in Ellsworth on Wednesday, October 8.

A letter was read announcing the opening of the multiple sclerosis clinic at the Eastern Maine General Hospital, Bangor. This clinic which is to be held the second Friday afternoon each month, is to be conducted by Carl W. Irwin, M.D. Walter W. Herbert, M.D., of Ellsworth, presented some interesting X-ray examples of biliary tract disease.

The following members were present: Drs. Joost, Knickerbocker, Crowe, Thegen, Gray, Herbert and Williamson. Guests were, Thomas Williams, M.D., and Elizabeth E. Williamson, M.D.

RUSSELL G. WILLIAMSON, M.D.
Secretary

YORK

October 8, 1958

The bimonthly meeting of the York County Medical Society was held at Valle's in Kittery. There were 21 members present.

Following a social hour and dinner, William B. O'Sullivan, M.D., of Saco, President of the county society, called the meeting to order. The guest speaker, Theodore Klumpp, M.D., of Winthrop Laboratories, was introduced by Melvin Bacon, M.D., of Sanford. Dr. Klumpp gave an interesting talk about Geriatrics and its problems.

The following members were appointed to serve on the

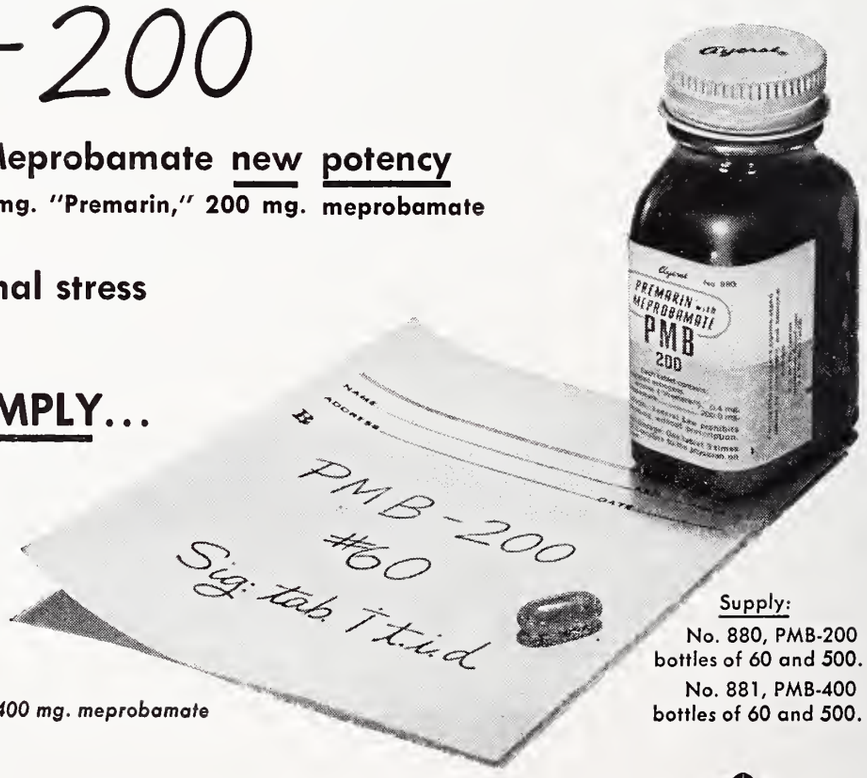
PMB-200

"Premarin" with Meprobamate new potency

Each tablet contains 0.4 mg. "Premarin," 200 mg. meprobamate

For undue emotional stress in the menopause

WRITE SIMPLY...



Also available as PMB-400 (0.4 mg. "Premarin," 400 mg. meprobamate in each tablet).

Supply:
No. 880, PMB-200 bottles of 60 and 500.
No. 881, PMB-400 bottles of 60 and 500.

AYERST LABORATORIES • New York 16, New York • Montreal, Canada

"Premarin®" conjugated estrogens (equine) Meprobamate licensed under U.S. Pat. No. 2,724,720 5830

nominating committee, Drs. Carl E. Richards, Leon R. Jellerson and Stephen A. Cobb. This committee will report at the annual meeting which will be held in Kennebunk on January 14, 1959.

CHARLES W. KINGHORN, M.D.
Secretary

LINCOLN-SAGADAHOC

October 21, 1958

A meeting of the Lincoln-Sagadahoc County Medical Society was held at The Ledges in Wiscasset on October 21. There were eleven members and guests present.

The business meeting was opened by the society president, Stanley R. Lenfest, M.D., Waldoboro. The following members were appointed as local town chairmen for the Diabetes Detection Drive, to be held November 16-22; Dr. Lenfest, Waldoboro; George W. Bostwick, M.D., Damariscotta-Newcastle, Deane L. Hutchins, M.D., Boothbay Harbor; Everett D. Schubert, M.D., Wiscasset; Richard I. Clark, M.D., Bath. Urinalyses are to be done by pharmacists, who will serve as collection agencies.

It was voted to hold the usual December meeting and all members were strenuously urged to attend also the Fall Clinical Session of the State Association to be held in Portland, December 13.

Francis A. Winchenbach, M.D., Bath, described the major changes in the Medicare contract signed last week at the meeting of the M.M.A. Council.

The guest speaker was James F. Patterson, M.D., of Tufts Medical School, who spoke on "Skin Manifestations of Systemic Diseases" and showed many fine slides. Dr. Patterson was enthusiastically received.

GEORGE W. BOSTWICK, M.D.
Secretary

New Members

KENNEBEC

Maurice Guillemette, M.D., 109 Water Street, Augusta
(Elected to membership, 9/8/58)

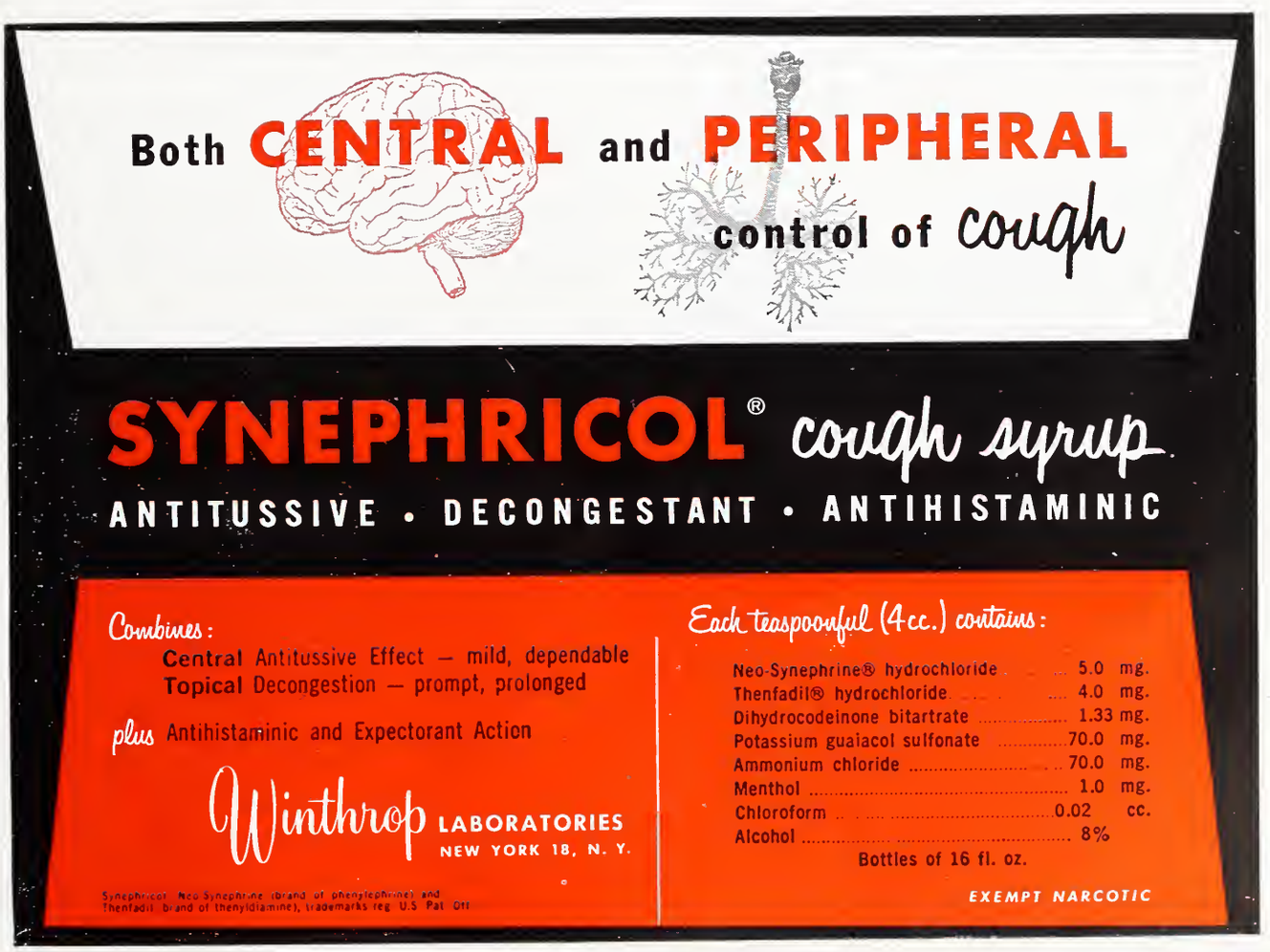
Announcements

Maine Chapter
National Multiple Sclerosis Society

The Maine Chapter of the National Multiple Sclerosis Society wishes to notify all physicians of the two MS clinics in Maine which are supported by the chapter through MS HOPE CHEST funds.

The newly opened Bangor MS Clinic meets the second Friday afternoon in each month at the Eastern Maine General Hospital, 489 State Street, Bangor. The clinic chief is Carl W. Irwin, M.D., of Bangor.

The Portland MS Clinic meets the fourth Thursday of each month at the Maine Medical Center, 22 Bramhall Street,





LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY,
Pearl River, New York

Portland. The clinic chief is George L. Maltby, M.D., of Portland.

Appointments for patients may be made by writing to: "MS Clinic" at either hospitals.

The Maine Chapter urges you to utilize these clinics, which are available for diagnostic and referral purposes.

New M.D.'s in Maine

Harold D. Cross, M.D., Box 37, Hampden Highlands — General Practice.

Jacob Manol, M.D., 31 Deering Street, Portland — Orthopedic Surgery.

American Academy of General Practice State of Maine Chapter

W. Kenneth Clark, M.D., of New York City, an officer of the American Cancer Society, spoke at the annual meeting of the Maine Chapter of the American Academy of General Practice in Portland, October 11. His subject was "The Physician's Role in Cancer Control."

Louis A. Selverstone, M.D., cardiologist from the New England Center Hospital in Boston spoke on "The Role of the Cardiac in Industry."

George L. Maltby, M.D., Theodore M. Stevens, M.D., Francis M. Dooley, M.D. and Francis H. Fox, M.D., all of Portland, also addressed the meeting.

American College of Surgeons

H. Richard Hornberger, M. D., Waterville; Henry F. Kramer, M.D., Caribou; Burton S. Munro, M.D., Gardiner and Richard B. Stephenson, M.D., Portland were recently admitted to fellowship in the American College of Surgeons.

American College of Surgeons

Outline of Sectional Meetings During 1959

All members of the medical profession are invited to attend any of the 1959 Sectional Meetings of the American College of Surgeons. Cities and dates are:

Charleston, South Carolina, January 19, 20, 21

Houston, Texas, February 2, 3, 4

Vancouver, British Columbia, February 26, 27, 28

St. Louis, Missouri, March 9 through 12 (Joint Nurses Sessions)

Montreal, Quebec, April 6 through 9 (Joint Nurses Sessions)

Sectional Meetings are planned by local committees, and are designed to answer the needs and wishes of doctors within the meeting area. Panels, symposia, reports, medical motion pictures, and question and answer sessions characterize the programs, with surgeons of outstanding ability serving as teachers and lecturers.

For additional information, write: Dr. H. Prather Saunders, Associate Director, American College of Surgeons, 40 East Erie Street, Chicago 11, Illinois.

American Heart Association Meeting

H. Draper Warren, M.D., Caribou, Maine Heart Association, President; Ralf Martin, M.D., Portland, Board Chairman; Edward A. Greco, M.D., Portland, 1st Vice-President; Wilson H. McWethy, M.D., Augusta, Director; Manu Chatterjee, M.D., Brunswick and Frank S. Carpenter, State Treasurer and campaign committee co-chairman, attended the annual meeting and scientific sessions of the American Heart Association held recently in San Francisco.

Physician's Guide to Psychiatric Tests and Terminology

A Physician's Guide to Psychiatric Tests and Terminology, a 40-page illustrated booklet, has been made available by Schering Corporation for the medical profession as part of that company's continuing program of supplying medical information to the practicing physician.

The booklet, which is a monograph of tests and terminology employed in psychiatric treatment, is designed to offer a concise reference and guide for the physician in his application of psychiatry in the care of patients.

Divided into two sections, the booklet outlines tests that have been used in psychiatric training as well as over 200 terms often mentioned in discussing psychiatric cases. Some of the tests include the famous Rorschach Ink Blot Test, Figure Drawing Test, Word Association and Picture Frustration Test.

The preparation of the guide for the practicing physician by Schering Corporation was based on a need for closer association through clearer understanding of the physician and patient on concepts of chronic and incurable mental illness. In the selection of the tests as well as the terms for definition, only those most frequently used in psychiatric practice are included.

Wanted: Old Photos of Physicians Driving Ancient Cars

The Illinois State Medical Society is preparing an exhibit centered around an *Illinois Medical Journal* article which told of the role of physicians in the development of the automobile in the United States at the turn of the century.

To help illustrate this exhibit, the Society will appreciate the loan of old photographs showing physicians at the wheels of cars 1900-1910 vintage. Scenes showing difficulties on the road, or poor highway conditions, are especially desired. Enlargements will be made of these photographs and the originals returned undamaged.

Photographs should be accompanied by a memo giving the name and town of the physician, whether living or deceased, and the make and year of the automobile. They should be sent to Mr. John A. Mirt, Illinois State Medical Society, 185 North Wabash Avenue, Chicago 1.

American Congress of Physical Medicine and Rehabilitation

Two annual essay awards are being sponsored by the American Congress of Physical Medicine and Rehabilitation. The first is open to anyone, but directed primarily to interns, residents, graduate students in the pre-clinical sciences and graduate students in physical medicine and rehabilitation. The award for this essay is $200, and the deadline date for submitting manuscripts is March 2, 1959.

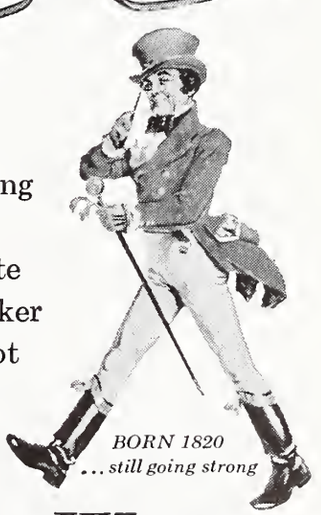
The second is the Bernard M. Baruch Essay Contest and is open to medical students only. The award for this essay is $100 and the deadline is March 2, 1959.

For rules and regulations write: American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

Always in Good Taste!



Generations of skill in the art of whisky making are reflected in the good taste of Johnnie Walker Scotch. Why not try some soon?



BORN 1820
... still going strong

JOHNNIE WALKER
SCOTCH WHISKY

BLENDED SCOTCH WHISKY, 86.8 PROOF. IMPORTED BY CANADA DRY CORPORATION, NEW YORK, N. Y.

Letter To The Editor

Daniel F. Hanley, M.D., Editor
The Journal of the Maine Medical Association
Brunswick, Maine
Dear Doctor Hanley:

The World Medical Association has initiated a program which the American Medical Association commends to your attention.

On July 1, 1958, the services of a Central Repository for Medical Credentials became available to doctors of the world. During war and national uprisings, medical records are often lost or destroyed. Because of this, many doctors are today unable to utilize their professional skills because of the loss or destruction of their original credentials and a lack of a protective service in which authenticated copies could be deposited. Therefore, The World Medical Association has undertaken a program to assure that the doctor will always be able to prove himself medically trained and fully accredited to practice medicine.

In the United States, the lifetime cost of the service on a one-payment basis to the newly graduated doctor is approximately $60.00. An actuarial schedule has been established for doctors in the various age groups. A 10-year service rate is also available.

Repository officials suggest that the credentials deposited include official medical school record, medical diploma, and specialist credentials. American doctors should *not* send their original credentials, but should send photostatic, microfilm, or notarized copies of their original credentials.

Requests for forms and additional information in regard to the Central Repository for Medical Credentials is available from The World Medical Association, 10 Columbus Circle, New York 19, New York.

FRANK W. BARTON
Secretary, American Medical Association
Council on National Defense

THERAPY OF THE NEPHROTIC SYNDROME — *Continued from page 432*

2. Regular diet, no added salt.
3. Minimal restrictions of fluid (about 1000 ml/day).
4. Vitamins.
5. Hydrocortisone — 300 mg/meter^2/day three days per week.
   Added KCl if appetite is poor.
   Blood pressure weekly.
   Weight chart (and intake and output chart).
   Remain at home first 6 months, noncompetitive activity after this.
6. Follow-up visits approximately monthly with urine analysis and blood analyses (total protein, cholesterol, NPN, sed. rate).
7. Maintenance therapy is decreased after 6 to 12 months without active disease,* even though proteinuria (200 mg/day) persists, and discontinued during the next 6-8 weeks.

Other Therapeutic Medications

1. Steroids — Cortisone 400 mg/meter^2: Prednisone — Prednisolone 50-100 mg/meter^2: Triamcinolone 20-50 mg/meter^2.
2. Plasma volume expanders — Dextran, 6%, 300-400 ml/meter^2 at a rate 2-4 ml/minute. Albumin.
3. Diuretics.
   Mercurials — oral preparation, Neohydrin.®
   Diuril (chlorathiazide 500-1000 mg/meter^2).
   Rolicton® (aminoisotetradine) 400-800 mg/meter^2.
4. Nitrogen mustard — 1-2 mg/day i.v.
5. Fever therapy — malaria.
6. Aldosterone antagonists.
7. Physical removal of fluid, paracentesis.

Regime of therapy presently used in Children's Medical Center, Boston and patterned after that of Drs. J. Metcoff and R. Schwartz.

*Definition of activity of Disease: Presence of edema, elevated serum cholesterol, low serum protein, elevated sed. rate, proteinuria over 200 mg/day.

WHY DON'T YOU
GET YOUR PAY?

Over 500 physicians and 20 hospitals have increased their incomes by placing their accounts with us for adjustment, in a humane, honest and efficient manner. So can you — let us tell you how.

Reference: Maine Medical Association

MEDICAL AUDITING COUNSEL

297 WESTERN PROMENADE PORTLAND, MAINE

CLIP AND MAIL

Without obligation send me full details concerning your service.

Name .....

Street .....

City .....

The Journal
of the
Maine Medical Association

Volume Forty-Nine | Brunswick, Maine, December, 1958 | Number 12

The Use Of Orinase® In The Treatment Of Diabetes

Robert O. Kellogg, M.D.*

For approximately one year there has been in widespread clinical use an orally administered drug for the reduction of blood sugar levels in the treatment of diabetes mellitus. Prior to the introduction of insulin in 1923, the treatment of the diabetic patient, and the high mortality and morbidity rate from diabetic acidosis was a challenge to the ingenuity of the physician of that period. For thirty-five years insulin has been an extremely useful agent in the treatment of diabetes, and both physicians and patients have become accustomed to its use. It is not surprising that some physicians who have become well acquainted with insulin and its potentialities, are quite reluctant to adopt a newly introduced drug with a different route of administration, and with a different mode of action. The sulfonylureas are members of the first family of oral drugs which will satisfactorily relieve the symptoms of diabetes, will lower the blood sugar, and will render the urine sugar free without causing any serious toxic reactions. The two sulfonylurea drugs that have been used extensively are carbutamide, and tolbutamide.

Marble[1] found abnormalities in certain liver function tests in a significantly high percentage of carbutamide treated patients. Because of the high incidence of reactions, including a few cases of jaundice, carbutamide was appropriately withdrawn from the market by the manufacturer in 1956. Orinase, however, has failed to show any severe toxic reactions following its use in approximately 300,000 cases of diabetes mellitus.

The use of Orinase has been restricted by some physicians to individuals who are unable to use insulin either because of sensitivity to it, or because of some physical or psychological handicap which prevents self-administration of the drug. Juvenile diabetes, and a history of diabetic coma have been considered to be definite contraindications to Orinase. Orinase has similarly not been recommended in so-called labile or brittle diabetics. This latter group are few in number fortunately, but constitute extremely difficult problems of management to themselves and their physician. Hypoglycemia and ketonemia with ketonuria may be separated by only a few hours, an acute infection, an emotional experience, an athletic contest, or any unusual expenditure of energy or a few units of insulin — too much or too little. Orinase may prove of definite value in the management of these patients.

This problem has been studied by Fabrykant[2] who reports a stabilization of the diabetic state by administering Orinase in addition to insulin. A gradual reduction of insulin dosage up to 40 per cent of the previous usual dose was noted. When the insulin dose was lowered rapidly (within a two-week period), progressive ketosis and dehydration uninfluenced by Orinase was observed. As ketosis progressed under these conditions, the previous insulin requirements were inadequate and greatly increased dosage of insulin was required up to a month to maintain a ketosis free state. Fabrykant[2] suggests that Orinase be used in labile diabetics who can-

*Medical Service, Eastern Maine General Hospital, Bangor, Maine.

not be controlled with insulin alone, and that this furthermore can be done safely on an ambulatory basis. The mechanism by which Orinase exerts a stabilizing effect on labile diabetics is unknown.

Dosage

Formerly a large initial dose of Orinase was employed, but in recent months 1.5 gm. daily has been the starting and maintenance dose in most patients. This is usually given in three doses of 0.5 gm. each, but may be given all in one single dose daily. There is no hard and fast rule for the reduction of insulin dosage after Orinase is started, as each case should be managed in accordance with the patient's response to the drug. In general it is recommended that the insulin dose be lowered in the patients who take 40 or more units daily in decrements of 10-20 per cent of the total daily dose if the glycosuria becomes less and as normoglycemia is approached. In the patients who have been on less than 40 units of insulin daily it would arbitrarily be suggested to decrease to one-half the insulin dose when Orinase is started. A careful charting by the patient or his relative of his premeal and bedtime urines for glucose and acetone during the transition period and until stabilization of blood sugar and Orinase dose is secured is mandatory, and good patient discipline. During the period of conversion from insulin to Orinase the patient must be closely supervised. Too rapid a reduction in insulin dose may result in acidosis. The patient should, of course, be instructed to report the development of acetonuria to his physician immediately and not await the next office appointment. The correct technique for testing urine for acetone should be taught to the patient in detail by the physician. If two drops of urine is allowed to remain on the acetest tablet longer than 30 seconds an abnormally high amount of acetone will be reported. The development of acetonuria in any amount needs immediate attention and evaluation. It should be recognized that although Orinase is convenient to administer, and invaluable, its use does not relieve the physician or the patient of the obligation to exercise strict dietary control. It is further pointed out that a complication such as infection may necessitate the temporary use of insulin. Therefore, the instruction of the patient in the use and administration of insulin should not be neglected in Orinase treated patients.

Criteria of Diabetic Control

The criteria of diabetic control as established by Marble[1] are as follows: For control to be considered good, 70 per cent of two-hour post-prandial blood sugars should not exceed 130 mg. per cent; and for control to be considered fair, 70 per cent of the two-hour post-prandial blood sugars should not exceed 150 mg. per cent. All higher blood sugars at two hours would be considered poor control. It should be emphasized here that these are true blood sugars to which is added 20 mg. per cent if the Folin-Wu method is employed.

This paper will concern itself with 14 Orinase treated diabetic patients of the author. Using the above criteria, 58 per cent of these 14 patients had a good, or fair response to Orinase, and in 42 per cent the response was poor. This compares with 66 per cent good or fair response in a large series by Marble,[1] and 80 per cent by Dolger.[3] The aim of treatment that is the goal of some clinicians,[4] namely, a one-hour postprandial sugar of 140-160 mg. per cent is a rigid requirement. A normal blood sugar two hours after a meal is sought, but more frequently than not this value exceeds 120 mg. per cent.

Dolger[3] discusses his large experience with 500 patients on Orinase, 90 per cent of whom were 40 years of age or older, and he found 70 per cent responded excellently. He does not define specifically what constitutes an excellent, good, fair, or poor response. In this large group, only 11 patients were 20 years old or less. In none of these was a successful result obtained. Of more than academic interest was his inability to correlate duration of diabetes with response to Orinase. The diabetics with long standing diabetes responded as favorably as those whose diabetes was of less than one year's duration. Therefore, Orinase should not be withheld on the basis of long duration of diabetes. This statement is substantiated by the history of an elderly man who survived 20 years of pre-insulin era with diabetes, 30 years of insulin with glycosuria and hyperglycemia, and finally one year of aglycosuria and normoglycemia while on Orinase — a record not achieved with insulin.

In addition to the poor results with juvenile diabetics, failure was consistently noted in the use of Orinase in patients with a past history of diabetic coma. The finding of acidosis, however, in a newly diagnosed diabetic does not contraindicate the present or future use of Orinase. Dolger[3] further reports an occasional patient with a favorable response to Orinase who required up to 100 units of insulin daily. Successful treatment is infrequent when the insulin requirement exceeds 50 units daily, but the size of the insulin dose should not prevent the physician from trying Orinase, and its is anticipated that the greatest success will be achieved with those diabetics who require 40 units or less of insulin daily. In Dolger's 500 cases it is noteworthy that no single serious toxic affect was observed in the entire group over a one-year period.

Presentation of Cases

This report is concerned with 14 patients between the age of 52 to 85 years, who have been treated with Orinase. None is obese. Duration of diabetes varies from a few months to 18 years. All are on a diabetic diet prescribed with the ideal weight for the individual and his caloric requirements in mind. It should be emphasized at this point that dietary considerations are necessary for all diabetic patients whether they require a blood sugar reducing drug or not. Six of the 14 pa-

tients have not employed insulin. Dosage of insulin used by the remaining patients has varied between 10 and 60 units of a long acting insulin daily. The Orinase dosage in these 14 patients has averaged 1.5 gm. daily.

Two patients had to discontinue Orinase because of the rapid development of ketonuria.

A 56-year-old lady who had diabetes for 23 years, required 60 units of NPH insulin daily to keep her normoglycemic. One week after starting Orinase and having decreased her insulin to 30 units daily, she developed fatigue, a blood sugar of 265 mg. per cent and 310 mg. per cent and moderately positive urine acetone. Orinase was abandoned and insulin dose restored to 60 units daily. He last fasting blood sugar was 85 mg. per cent. This patient has never been in coma or had other serious complications.

The other failure was a 50-year-old female who responded unsatisfactorily in August, 1957, with the development of strongly positive acetonuria. A second attempt at reducing insulin and instituting Orinase seven months later resulted in heavy acetonuria and a blood sugar of 530 mg. per cent on the third day of this treatment. Orinase was abandoned and her former dose of insulin instituted. Two hour postprandial blood sugar four days later was 200 mg. per cent. This patient has had diabetes for 10 years and has had a complicated course with severe diabetic retinitis, nephrolithiasis, chronic pyelonephritis, arthritis and paronychia.

These failures are contemplated in retrospect with interest in light of a recent report on the method of administration of Orinase by Silver and Nagel.[5] This report concerned itself with 20 patients who were given 1.5 gm. of Orinase daily in addition to their usual dose of insulin. At the end of 100 days of combined treatment they were unable to reduce the insulin dose in any of their 20 patients. Soon after this, blood sugars were lower and as the months went by they were able to lower the insulin dose to keep the fasting blood sugar at 100-120 mg. per cent. After eight months, 17 of the 20 patients were on Orinase alone with fasting blood sugars between 90 and 120 mg. per cent. They concluded that persistence in the use of Orinase might yield favorable response where it might previously have been considered a failure. Their 20 patients were all elderly diabetics age 69 to 87 years who had had diabetes for 15 years or longer.

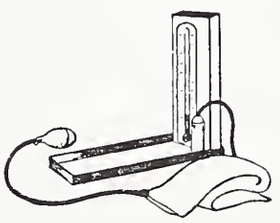
Summary

This reported experience with the use of Orinase in 14 patients is not large enough to justify any definite conclusions. Fifty-eight per cent of this group had a good or fair response. This compares with 66 per cent as reported by Marble[1] in a large series. The use of combined drug treatment of labile diabetics with insulin and Orinase may be found to be more satisfactory than insulin alone. The conversion from insulin to Orinase should be accomplished with slow, gradual withdrawal of insulin in the diabetics who require 40 or more units of insulin or who have a history of acidosis. In closing, I should like to quote Dr. Garfield Duncan:[6] "Dietary considerations are necessary for all diabetic patients. Tolbutamide therapy is probably next in order of frequency in the treatment for new cases of uncomplicated diabetes. It is a treatment of convenience not requiring injection. All diabetic patients who developed diabetes after 40 years of age, who are not appreciably overweight, who have no acute complications, and who formerly have required insulin to control their diabetes are proper candidates for trial therapy with Tolbutamide."

References

1. Marble, Alexander. Clinical Experience with Sulfonylurea Compounds in Diabetes. Annals of the New York Academy of Sciences, 71: 239-248, 1957.
2. Fabrykant, Maximilian. Supplemental Orinase in Insulin Treated Diabetes. Metabolism. Vol. 6: No. 6: 509, 1957.
3. Dolger, Henry. Experience with the Tolbutamide Treatment of 500 cases of Diabetes on an Ambulatory Basis. Ibid. 1: 275, 1957.
4. Beaser, Samuel B. Further Experience with the Use of Sulfonylurea in Diabetes. Ibid. 71: 264-267, 1957.
5. Silver, A. P., and Nagel, H. The Effects of Chronic Administration of Orinase in Aged Diabetics. Maryland State Medical Journal, 6: 690, 1957.
6. Duncan, Garfield. The Modern Aspects of the Diabetic Problem. Bulletin of the New York Academy of Medicine. Feb., 1958.

316 State Street, Bangor



Cholecystectomy For Cholecystitis

Albert L. Babcock, M.D.*

In the present surgical era, with the valuable adjuncts of improved anesthesia, blood and electrolyte replacement, and antibiotics, surgery of the biliary tract has become increasingly safer, and more individuals in all age groups with cholelithiasis are being subjected to operation. However, a large number of patients continue to be admitted with such complications of cholelithiasis as acute cholecystitis and common duct stones with a history in many cases of symptomatology over a prolonged period of time. This group continues to be predominantly responsible for the morbidity and mortality in cholecystitis. The present report represents a survey of the surgical treatment of cholelithiasis and cholecystitis at a community hospital over a three-year period.

Material

The operative, clinical, and pathological records of all patients operated on for cholecystitis at the Eastern Maine General Hospital from January, 1955, through December, 1957 were reviewed. A total of 475 precedures were performed, cholecystectomy alone being done in 377, or 79.3 per cent, cholecystectomy plus common duct exploration in 89, or 19 per cent, common duct exploration only in six, and cholecystostomy in three, or less than 1 per cent. Nine patients who underwent abdominal exploration and were found to have carcinoma of the biliary tract are not included.

Of the total 395, or 83 per cent, had a clinical and pathological diagnosis of chronic cholecystitis, and 75, or 16 per cent of acute cholecystitis; the remaining six had a diagnosis of retained common duct stone, or cystic duct remnant. Stones were present in over 90 per cent of the entire group. There was an overall mortality of 11, or 2.3 per cent representing 1 per cent of all patients with chronic cholecystitis and 9.3 per cent of all with acute cholecystitis.

Age and Sex

Of the entire group, 371 were females and 104 were males, a ratio of almost 4:1. The youngest patient was seventeen, whereas the oldest was ninety-eight.

The incidence of acute and chronic cholecystitis in relation to age groups and mortality is shown in Figure 1. It is noted that 38 per cent of the entire group were over age 60, the proportion of patients presenting with acute cholecystitis increasing progressively with age, in that of those patients in the age group 61-70, 71-80, and those over 80, 16, 30, and 55 per cent, respectively, were operated for acute cholecystitis.

It is noted that whereas the patients with acute cholecystitis comprised only 16 per cent of the entire group, they accounted for two-thirds of the mortality, 82 per cent of the deaths occurring in patients over 60.

Symptomatology

Of those patients with chronic cholecystitis, 278, or 71 per cent gave a history of intermittent abdominal pain accompanied by flatulence and nausea. An additional 45 patients had noted jaundice in addition to the other symptoms. In 62, or 15 per cent, abdominal pain alone was the sole presenting symptom. Only two, diagnosed at previous laparotomy for unrelated disease, were entirely asymptomatic.

In all patients with acute cholecystitis, abdominal pain, nausea and vomiting were the predominant symptoms. In addition, jaundice was present in 11, or 15 per cent.

The duration of symptoms in patients operated for chronic cholecystitis varied from several weeks to "many years," the longest being 28 years. Of significance is that 143 patients, or 35.6 per cent had symptoms over three years and one-half of these had an x-ray diagnosis of cholelithiasis prior to the episode precipitating admission. Sixty-one of these 143 patients were over age 60, and of this group, nine were known to have myocardial disease, and eight presented with jaundice. Of this group there were four deaths, representing all but one of the deaths in those patients operated for chronic cholecystitis.

In those patients presenting with acute cholecystitis, 38 or approximately one-half admitted to symptomatology only for less than one month, with four deaths, all except one over age 70. On the other hand 31 patients, or 41 per cent, had symptoms for over three years, and 18, or over one-half of these, had a previous x-ray diagnosis of cholelithiasis. Of these, there were two deaths, one occurring in a patient with a previous x-ray diagnosis.

Diagnosis

Of those patients with chronic cholecystitis, 330, or 84 per cent, had an x-ray diagnosis of cholelithiasis, proven at operation. There were an additional two with an x-ray diagnosis in which calculi were not found at operation, and in two other cases polyps were proved at laparotomy. Non-visualization of the gallbladder

*Assistant Attending Surgeon, Department of Surgery, Eastern Maine General Hospital, Bangor, Maine.

was noted on cholecystography in 48 patients. Of this group 13 were jaundiced at the time, and six had a recent acute episode, and in five, no stones were present at operation. Eighteen patients, or 4.5 per cent, of those with chronic cholecystitis were diagnosed on clinical grounds only, nine of these being jaundiced. One patient had a previous cholecystoduodenostomy at another hospital, and five had previous cholecystostomy. Three patients were diagnosed at previous laparotomy for unrelated disease.

Of those with acute cholecystitis a clinical diagnosis was made in 32, slightly less than one-half, five of these being jaundiced. A non-functioning gallbladder by x-ray was noted in 28, of whom five were jaundiced, whereas in only nine patients, or 12 per cent, were calculi demonstrated by x-ray. Twenty-one patients presenting with acute cholecystitis had a previous x-ray diagnosis of cholelithiasis.

Of the entire series ten patients were found by x-ray or at operation to have an associated duodenal, and three had a gastric ulcer.

Acute Cholecystitis

As previously noted, there were 75 patients operated for acute cholecystitis. Of this group, seven operations for gangrenous gallbladders were performed within 12 hours of admission, cholecystectomy being performed in four and cholecystostomy in three patients, with two deaths. An additional 32 patients were submitted to laparotomy between 12 and 72 hours after admission, following hydration and limited medical work-up. Of these, two were jaundiced and five were found to have gangrenous gallbladders. Cholecystectomy was performed and four common duct explorations carried out, two of the latter revealing common duct calculi. In this group there were three deaths. Thirty-five patients with acute cholecystitis had cholecystectomy over 72 hours after admission, nine of which included common duct exploration, six being productive of stones, with two deaths. The overall mortality for acute cholecystitis was 9.3 per cent and in seven, or nearly one-half of those undergoing common duct exploration, re-operation was necessary at a later date for residual stones.

Common Duct Exploration

There were 95 patients who had common duct exploration. Of these, 89 were performed at the time of cholecystectomy, an incidence of 19.1 per cent. These included 15 operated for acute cholecystitis, as noted. The percentage of patients who had common duct exploration was approximately equal in acute and chronic disease. However, calculi were present in 10, or 66 per cent, and 22, or 30.2 per cent, respectively, for an overall incidence of 36.3 per cent. There were six common duct explorations in patients who had previous cholecystectomy, all productive of stones.

The primary indications for common duct exploration included 38 for clinical jaundice, of whom calculi were found in 21, or 55 per cent. Of this group, seven presented with acute cholecystitis and there were four deaths. A dilated common duct and palpable common duct stones were the primary indications for exploration in 20 and 10 patients, respectively, with stones found in 20 per cent of the former and 90 per cent of the latter. In this group there was one death. Small gallbladder stones were listed as the primary indication for exploration in nine cases, and in only two were stones present. Increased cystic duct size and a history of pancreatitis were the indications in two and five patients, respectively, and in none were stones found.

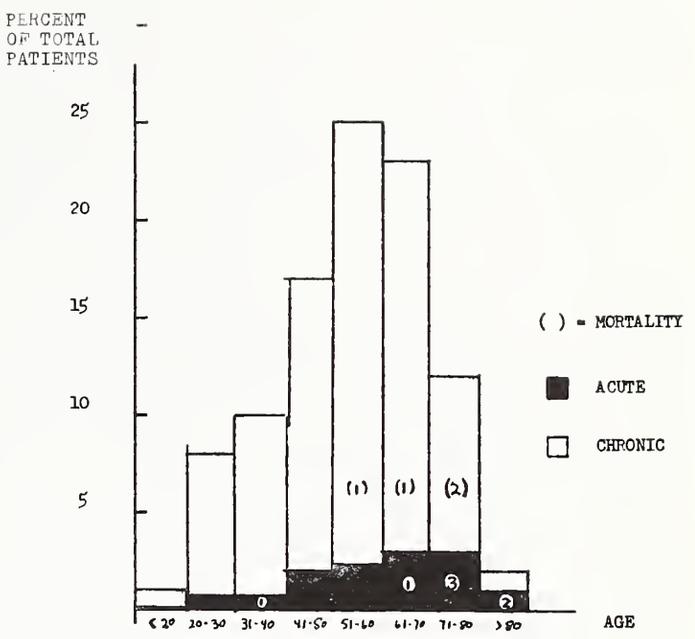


Fig. 1.

Of those six patients who had common duct exploration only, the indications being persistent symptoms or recurrent jaundice following previous biliary surgery, all had calculi present, one in a cystic duct remnant.

The overall mortality in the patients who had common duct exploration was 5, or 5.2 per cent, three occurring in patients with acute cholecystitis, all over age 70. Morbidity included eight patients who were proved to have residual stones postoperatively, all but one patients who originally underwent operation for acute cholecystitis. Five of these patients were re-explored, and of these, two have had further re-explorations for residual stones.

Mortality

The causes of death in the 11 patients included three from postoperative myocardial infarction, two due to pulmonary emboli, two as a result of liver failure, one each from a cerebrovascular accident and necrotizing pancreatitis, and two elderly patients who had undergone emergency procedures for acute cholecystitis, the cause of death not being stated, no autopsy having been performed. The average age of the mortality group was 70. The mortality in those who had common duct

exploration was 5.2 per cent or three times that of cholecystectomy alone.

Discussion

During the period 1955 through 1957 there were 475 operations performed for cholecystitis, 83 per cent for chronic and 16 per cent for acute disease, with an overall mortality of 2.3 per cent. Two thirds of the mortality occurred in patients submitted to operation for acute cholecystitis, with 82 per cent occurring in patients over age 60. Of significance is that almost one-half of the patients operated for acute cholecystitis had symptoms for over three years, and one-half of these had a previous x-ray diagnosis of cholelithiasis.

In those elderly patients requiring emergency operation for acute cholecystitis, with necessarily limited preoperative preparation, the mortality rate was highest, five of the seven deaths occurring in this group. Whereas in patients over age 60 with chronic cholecystitis with elective operation, the mortality rate was minimal and not significantly higher than in the younger group. Further, the incidence of proved residual common duct stones was found to be almost exclusively in those who underwent operation for acute cholecystitis.

Reports from other clinics[1,2] have stressed common duct stones as being a complication or sequela which increases with the duration of cholecystitis and cholelithiasis. The overall incidence of common duct exploration was 19.1 per cent, stones being present in 36.3 per cent; a considerable percentage was present in those operated for acute cholecystitis. The most frequent primary indication for common duct exploration was the presence or history of jaundice, whereas the presence of palpable stones was the most productive. The presence of small stones in the gallbladder has recently been stressed by Bartlett and Waddell[3] as the most unreliable primary indication, common duct stones being found in less than 20 per cent. The possible routine use of operating room cholangiography in such cases may be shown to decrease the number of unnecessary common duct explorations.

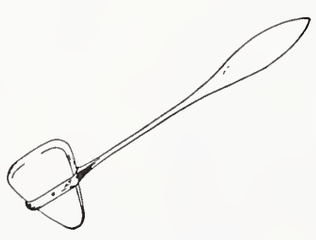
Conclusions

Cholecystectomy is a procedure attended by minimal mortality and morbidity when performed on a properly prepared patient as an elective procedure, regardless of age. It is evident that the elderly patient who presents with acute cholecystitis represents the hazard. The results of this study would emphasize that, in general, operation is indicated as soon as the diagnosis is made of cholelithiasis, even in patients presenting with minimal symptoms, and that age alone should not be a contraindication to elective cholecystectomy. If emergency operation is necessary in patients with acute cholecystitis, it should be delayed if possible until the patient can be properly prepared. The indications for common duct exploration are the same in acute as chronic cholecystitis, despite the greater hazard in the former with its higher morbidity and mortality.

References

1. Glenn. Common Duct Exploration for Stones, S.G.O., 95: 431-458, 1952.
2. Colcock, B. P. Choledochostomy: Its Place in Surgery of Biliary Tract. S. Clin. No. America, 28: 641-647, 1949.
3. Bartlett, M. K. and Waddell, W. R. Indications for Common Duct Exploration. New Eng. J. Med., 258: 164-167, 1958.

316 State Street, Bangor



Farmer's Lung — Case Report

LLOYD BROWN, M.D.,* HADLEY PARROT, M.D.** AND EDWARD C. PORTER, M.D.***

INTRODUCTION

Farmer's Lung, variously known as "thresher's lung," "harvester's lung," "bronchomycosis fenieseciorum," and closely related to "hemp disease" and "bagassosis" has been well publicized in the British and Scandinavian literature, but has not until recently been widely recognized in this country.[2,4]

We have recently encountered a patient with Farmer's Lung. Because of the likelihood of exposure to moldy hay in the New England states and the extreme disability which may result, we think it advisable to restate some of the known features of this disease.

CLINICAL AND LABORATORY CHANGES

The disease may be divided into three phases:

A. The initial attack.
B. Subacute stage.
C. Chronic stage.

The acute episode develops rapidly after exposure to dusts which are moldy and most often is associated with the handling of moldy hay or grains. The attack develops within a few hours and is characterized by fever, chills, irritating cough, occasional hemoptysis, anorexia, frontal headache, dyspnea and even cyanosis. A few rhonchi and fine rales may be heard in the chest but no signs of consolidation are present. A chest x-ray may demonstrate nothing at the time of the acute attack although fine to coarse granular and nodular mottling of diffuse distribution may appear. The acute episode usually clears spontaneously within a few days but may last a few weeks.

The subacute phase is more disabling and is recognized more often because of its more severe effects. The patient usually gives a history of repeated exposure to moldy hay dust or grains within the preceding past two to three months. Increasing dyspnea, dry relatively nonproductive cough, weight loss and night sweats characterize this phase of the disease. The patient frequently is cyanotic. Crepitations are audible over the lower lobes. Polycythemia may be present and pulmonary function studies may reveal hypoxia of arterial blood secondary to decreased diffusing capacity. There may also be an increased residual lung volume and reduced vital capacity, maximum breathing capacity, timed vital capacity, and expiratory air flow rates consistent with obstruction in the small bronchioles.[4] Chest radiographs demonstrate a fine alveolar mottling associated with compensatory emphysema. The truncal shadows may be coarsened. An important diagnostic point is the absence of hilar and mediastinal adenopathy. In this stage the clinical and radiographic changes will clear spontaneously if the patient is removed from contact with the inciting agent. Symptoms may persist for four to eight weeks. Residual roentgenologic changes may persist for three to four months. It should be noted that a normal chest x-ray does not exclude the diagnosis of Farmer's Lung. Lung biopsy by Dickie and Rankin[4] done after return of the chest x-ray to normal revealed an acute granulomatous interstitial pneumonitis. The condition tends to recur, however, if the patient is again exposed.

The third or chronic phase is less commonly recognized. Fuller[1] suggests that this may be due to the difficulty in obtaining an adequate history. The clinical picture in this late phase is that of pronounced pulmonary incapacity due to pulmonary emphysema, fibrosis, and frequently cor pulmonale identical to that seen in the end stages of other pulmonary diseases.

PATHOLOGY

Farmer's Lung in its first two phases, where it is most easily recognizable, is not lethal and therefore microscopic studies of the lung have not been readily available until Frank,[2] Dickie and Rankin[4] recently provided detailed description of such findings obtained by lung biopsy.

In an early case a lung biopsy revealed "numerous focal granulomata . . . non-caseating with infiltration of lymphocytes, histiocytes and adjacent fibrosis.[2]" In some granulomata there were formations of dense acellular collagen. Dickie and Rankin[4] described in six patients an acute granulomatous interstitial pneumonitis with epitheloid cells, giant cells, and a few tubercles.

In an advanced case Frank[2] described diffuse fibrosis with large amounts of acellular collagen.

ETIOLOGY

There is some disagreement as to the exact cause for the pulmonary findings. However, Fuller,[1] Frank,[2] Studdert,[3] and Dickie and Rankin[4] all seem to feel that the condition is due to a nonspecific interstitial lung reaction following inhalation of some foreign material in fungus filled dust, rather than a true mycotic or bacterial infection.

Departments of Surgery,* Medicine** and Radiology,*** Eastern Maine General Hospital, Bangor, Maine.



FIG. 1. Chest X-ray on admission.

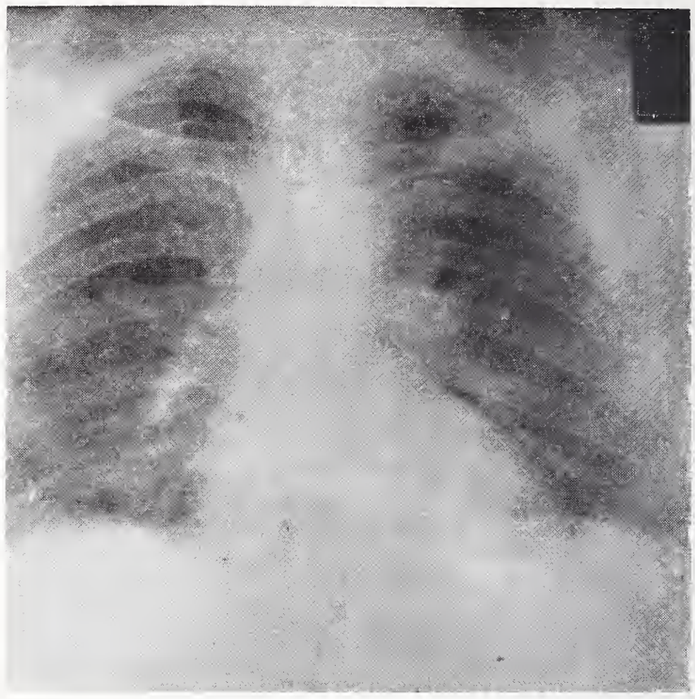


FIG. 2. Chest X-ray 18 days later.

CASE REPORT

H. H. (EMGH No. 54343) a forty-four-year-old white male farmer was admitted to the Eastern Maine General Hospital, Bangor, Maine April 11, 1958 complaining of shortness of breath. The patient was well until two months prior to admission at which time he had symptoms of respiratory infection characterized by fever of 102°, chills, malaise, and a dry, nonproductive cough not associated with shortness of breath. The acute symptoms lasted for approximately one week. The patient started using moldy hay in January, 1958 and during the early and middle parts of February the hay was particularly bad — one of his cattle became sick after ingestion of same. This hay was baled during a particularly wet haying season in the summer of 1957. When these bales were opened there was excessive dust, following exposure to which the patient would lacrimate, sneeze and have severe paroxysms of coughing. After recovery from the acute illness in February the patient had the onset of cough productive of whitish sputum and became moderately short of breath. There was lower anterior chest discomfort on deep breathing. Cyanosis was present during these periods. An x-ray taken elsewhere one month prior to admission revealed bilateral diffuse pulmonary infiltration and the patient was started on tetracycline with no improvement. During the two months prior to admission the patient noted increasing difficulty on exposure to hay associated with much shortness of breath and cough which required him to leave the barn. During the above period there was a 10-20 pound weight loss. There was no history of wheezing.

Past History and *Review of Symptoms* — non-contributory.

EXAMINATION: Blood Pressure 120/70. Pulse 80. Temperature 99. Respiration 24. The Patient was a well-developed, obese, slightly plethoric white male in no acute or chronic distress. His nails were of good color without clubbing or cyanosis. His chest revealed a trachea in the midline and was clear to percussion and auscultation. The heart was normal in size, rate, rhythm and sounds, P_2 was greater than A_2. No murmurs were heard. The remainder of his complete physical examination was within normal limits.

LABORATORY STUDIES: Urinalysis negative. Hemoglobin 16.5. Hematocrit 49. WBC 6,000. Differential normal with only one eosinophile. NPN, blood sugar, Total Proteins normal. CO_2 combining power 22.5 meq/L. Two cultures for tubercle bacillae were negative. One fungus culture grew out an organism resembling Geotrichosis Second strength PPD, Histoplasmin, and Coccidiodin skin tests were negative. The electrocardiogram was within normal limits. Pulmonary function studies showed a vital capacity of 3500 cc, 82 per cent of the predicted, 89 per cent of which was expired in the first second, 94 per cent in two seconds, and 100 per cent in three seconds. Maximum breathing capacity was 149 L/min 106 per cent of the predicted normal. Walking Ventilation was 12.0 L/min giving an air velocity index of 1.29 and dyspnea index of .08. It was felt there was no significant ventilatory defect except for relative decrease in Vital Capacity. Scalene node biopsy was normal on microscopic examination.

RADIOGRAPHIC FINDINGS: The admission chest film revealed nodular and linear densities involving both perihilar regions and extending into both lower lung fields. No hilar or mediastinal lymphadenopathy was

apparent. Review of outside films revealed a slight change in the distribution of densities in the left lung field with a decrease in disease in the mid lung field and an increase in the lower lung field changes in the five weeks prior to admission. Gradual clearing of the chest was demonstrated on the two subsequent examinations obtained during the patient's hospital stay.

SUBSEQUENT COURSE: During his hospital stay the patient was asymptomatic and complained of no cough or shortness of breath. However, after return to his farm and exposure to hay, he again developed shortness of breath with cyanosis and cough requiring a change of occupation. Subsequent to the change of occupation the patient did not complain of chest symptoms.

DISCUSSION: In all probability this case represents a patient in the second (subacute) phase of the disease. It is interesting to note that he developed a recurrence of his symptoms when re-exposed to the barn atmosphere. This would seem to provide dramatic confirmation of the diagnosis.

TREATMENT: In the literature reviewed there seemed to be fairly unanimous agreement as to the importance of avoidance of re-exposure once the disease is established.

Iodides and steroids are mentioned as being valuable in the treatment of the acute stage although there is little documentation of their efficacy. Dickie and Rankin[4] report marked subjective improvement with the use of steroids in patients with dyspnea and evidence of residual pneumonitis. Antihistamines and antibiotics are felt to be of little or no value. Oxygen and other symptomatic measures are used as indicated.

The most important recommendation, in the nature of a preventive, is the careful avoidance of storage of wet hay and grains.

Summary

1. A case of Farmer's Lung has been presented.
2. A brief resume of the clinical, radiographic, and pathological findings has been noted.
3. The dangers associated with the handling and storage of wet hay and grains have been stressed.
4. It is the feeling of the authors that the disease may be more widespread in this area than is generally realized and that only by careful history will more cases be recognized.

References

1. Fuller, C. J. Farmer's Lung: A review of present knowledge Thorax *8:* 59-64: (March) 1953.
2. Frank, R. C. Farmer's Lung: A form of pneumoconiosis due to organic dusts. Am. J. Roentgenol. *79:* 189-215. (Feb.) 1958.
3. Studdert, T. C. Farmer's Lung: Brit. M. J. *1:* 1305-1309 (June 13) 1953.
4. Dickie, H. A. and Rankin. Farmer's Lung: An acute granulomatous interstitial pneumonitis occurring in agricultural workers: J. A. M. A.: *167:* 1069-1076: (June 28) 1958.

Dr. Brown, 316 State Street, Bangor
Dr. Parrot, 74 Somerset Street, Bangor
Dr. Porter, 489 State Street, Bangor

Help Fight TB



Buy Christmas Seals

Urine Cultures In A General Hospital

PHILIP J. G. QUIGLEY, M.D.*

This study of 50 unselected urine cultures in a general hospital in a two-month period in 1958 was made in order to:

(a) Determine the validity, and value to the clinician, of these cultures;

(b) Correlate the presence of bacteria in the smear of the uncentrifuged urine with the findings in the smear of the urinary sediment, and with the culture;

(c) Correlate the degree of bacteriuria, by means of colony counts, with pyuria and with the clinical diagnosis, especially the presence, clinically, of significant urinary tract disease;

(d) Determine the presence of significant differences in the degree of bacteriuria as found in Catheter Specimens versus "Clean-Voided" Specimens.[1]

Only one specimen was utilized from any one patient. Urines, such as cystoscopic specimens from individual kidneys, where the amount did not admit of having a separate uncentrifuged portion, were not utilized. As cases were unselected, specimens from some urinary infections were received prior to therapy and from others after therapy.

The specimens were taken exactly as received in the laboratory, no specific study being made of the time from collection to arrival in the laboratory as it was felt that the study should be directed toward evaluating the cultures as submitted in routine hospital practice and not under a temporary "artificial" arrangement.

METHOD

Each specimen was divided into two portions. The first was centrifuged at 20,000 R.P.M. for 5 minutes, the supernatant poured off, and the sediment inoculated with a platinum loop in nutrient broth, on a Loeffler's slope, a plain agar slope, a blood agar plate, and an eosin-methylene blue plate. The sediment was also examined directly, and a smear stained by the Gram method was studied.

A smear of the second (uncentrifuged) portion was similarly stained and examined. One ml. was then diluted with sterile distilled water (to 1/100 if no bacteria were seen in the uncentrifuged urine smear, and to 1/10,000 if bacteria were seen in the uncentrifuged urine smear) and a pour-plate made from 1 ml. of the diluted urine, the medium being beef-extract tryptone glucose agar with skim milk as prepared for routine culture of milk.

The colony counts were made at 24 hours. Several were repeated at 72 hours and showed an increase of less than 10 per cent over the 24-hour count. Colony counts were separated into three groups: "Low," with 1-10,000 bacteria per ml. undiluted urine; "Intermediate," with 10,000-100,000 per ml.; "High," with 100,000 or over per ml. This grouping was based on the paper by Kass,[2] in which a count of 100,000 or over per ml. was considered as indicating "true bacteriuria."

RESULTS

I. Cultures and colony counts compared with clinical diagnoses.

Of the 50 cases, 13 were males and 37 females; eight were under 15 years, 42 over 20 years.

A final clinical diagnosis of urinary tract disease as the major pathology was made in 20 cases. Of these, cultures and colony counts were as follows:

Bacteria per ml. urine	*No. of cases*
Negative culture	1
Low count 1-10,000	4
Intermediate count 10,000-100,000	1
High count 100,000 and over	14

The organisms grown in these groups differed markedly:

Low count group
(1-10,000/ml.) —
4 cases — Staph. albus — 3
B. coli — 1

Intermediate count group
(10,000-100,000/ml.)
1 case — Staph. albus

High count group
(100,000/ml. and over) —
14 cases — B. coli or A. aerog. — 7
Proteus — 2
Mixed — 5
Proteus & A. aerog. — 1
Alk. fecalis & Staph. albus — 1
Pseudomonas & others — 1
Streptococcus (not Enterococcus) — 1
B. coli & Enterococcus — 1

A final clinical diagnosis of major pathology other than urinary tract disease was made in 30 cases. Of these, cultures and colony counts were as follows:

*Department of Pathology, Eastern Maine General Hospital, Bangor, Maine.

Bacteria per ml. urine	*No. of cases*
Negative Culture	9
Low count 1-10,000	12
Intermediate count 10,000-100,000	4
High count 100,000 and over	5

The organisms grown in these counts groups showed a distribution similar to that in the urinary tract disease category:

Low count group —
12 cases — Staph. albus — 9
Staph. albus & Proteus — 2
(Unidentified — 1)

Intermediate count group —
4 cases — Staph. albus & B. coli & others — 1
Staph. albus & A. aerog. — 1
B. coli & Pseudomonas — 1
Proteus & others — 1

High count group —
5 cases — B. coli or A. aerog. — 5

II. Pyuria.

Of the 20 urinary tract disease patients, 12 had pyuria, eight did not. All 12 with pyuria were in the high count (over 100,000/ml.) group. Of the eight without pyuria, one had a negative culture, four were in the low, one in the intermediate, and two in the high, count groups.

Of the 30 non-urinary-tract-disease patients, 15 had pyuria, 15 did not. The 15 with pyuria showed counts as follows:

Bacteria per ml. urine	*No. of cases*
Negative culture	1
Low count 1-10,000	6
Intermediate count 10,000-100,000	3
High count 100,000 and over	5

Cultures from these cases showed this distribution:

Low count group —
6 cases — Staph. albus — 5
Staph. albus and others — 1

Intermediate count group —
3 cases — B. coli — 1
A. aerog. & Staph. albus — 1
(Unidentified) — 1

High count group —
5 cases — B. coli or A. aerog. — 5

The 15 without pyuria showed counts as follows:

Bacteria per ml. urine	*No. of cases*
Negative culture	8
Low count 1-10,000	6
Intermediate count 10,000-100,000	1
High count 100,000 and over	0

Cultures from these were as follows:

Low count group —
6 cases — Staph. albus — 3
Staph. albus & Proteus —1
Staph. albus & others — 1
Proteus — 1

Intermediate count group —
1 case — Proteus

III. Correlation between smears and cultures.

Bacteria were seen in the smear of the uncentrifuged urine in 24 cases, and in 23 of these they were seen also in the sediment smear; in the remaining one case no bacteria were seen in the centrifuged smear, but Alk. fecalis and Staph. albus were cultured, the count being in the "high" group (over 100,000 per ml.).

No bacteria were seen in the uncentrifuged urine smear in 23 cases (such smear was not made in three cases). Of these 23, no bacteria were seen in the sediment smear of 16. In the remaining six, bacteria were seen in the sediment smear (sediment smear not being examined in one case), and the counts and cultures were as follows:

Bacteria per ml. urine	*No. of cases*	*Organisms*
Negative culture	1	—
Low count 1-10,000	4	Staph. albus — 3, B.coli — 1
Intermediate count 10,000-100,000	1	Staph. albus & A. aerog.
High count 100,000 and over	0	—

IV. *Correlation of cultures and counts with method of collection.*

Methods of collection were: Catheter — 18; "clean-voided" or "clean-catch" — 19; method not stated on request slip (or chart) — 13 (over 25 per cent).

Counts were as follows:

Catheter Specimens — 18

Bacterial Count	*No. of cases*
Negative culture	7
Low count 1-10,000	4
Intermediate count 10,000-100,000	1
High count 100,000 and over	6

"Clean-voided" or "Clean-catch" Specimens — 19

Bacterial Count	*No. of cases*
Negative culture	1
Low count 1-10,000	7
Intermediate count 10,000-100,000	2
High count 100,000 and over	9

Method of Collection Not Stated — 13

Bacterial Count	*No. of cases*
Negative culture	1
Low count 1-10,000	5
Intermediate count 10,000-100,000	1
High count 100,000 and over	6

Comment

It can be seen in these tables that in positive cultures there is a similar distribution, among the count groups, of the cases in Catheter, "Clean-voided," and Method-Not-Stated groups. The majority (seven out of nine)

of the sterile urines were Catheter Specimens; however, especially in view of the similar distribution in the count groups, no attempt can be made to attribute this to the method of collection as such, and it is felt that it may be due, to some extent, to the vagaries of choice of method of collection. It is, however, clear that, although the numbers are small, there is no marked difference in distribution in the count groups between Catheter & "Clean-voided" specimens, and especially that there is a similar (and small) proportion of cases in the "Intermediate Count" group where decision on true urinary infection is more difficult.

It is also notable that in all but one of the 24 cases in which bacteria were seen in the uncentrifuged urine smear, they were seen also in the sediment smear, and were cultured from the specimen in the one remaining case; of these 24, three were in the Low Count group, two in the Intermediate, and 19 in High Count group. Conversely, only six of 23 cases in which bacteria were not seen in the uncentrifuged urine showed bacteria in the sediment smear, and none showed a count in the "High" group.

Sensitivity tests had been ordered on 13 of 19 cases with significant bacteriuria.

Conclusions

(1) The presence of bacteria in a Gram-strained uncentrifuged urine smear, under conditions of routine collection of urines for culture in a general hospital, is strongly suggestive of the presence of a significant bacteriuria, and culture should be done.

(2) The absence of bacteria in a Gram-stained uncentrifuged urine smear is strongly suggestive of the absence of significant bacteriuria.

(3) No significant difference is found in the distribution of bacterial counts between Catheter and "Clean-voided" urine specimens.

(4) The presence of pyuria was, in 17 of 27 cases, associated with significant bacteriuria; the absence of pyuria was associated with significant bacteriuria in two of 23 cases, both of which had urinary tract disease. It is to be noted that five cases with pyuria and significant bacteriuria had a final diagnosis which did not include urinary tract infection; this represents 10 per cent of this series and 16 per cent of the "non-urinary tract infection group," and re-emphasizes what has been reported previously, that pyelonephritis is the commonest major pathology undiagnosed during life.

(5) Antibiotic sensitivity tests had been ordered on 13 of 19 (68 per cent) of cases found to have significant bacteriuria, and had frequently been ordered on cases found to have sterile urine or "low" counts.

(6) This study, done under general hospital routine conditions, endorses the practice of requesting, on a "Clean-voided" specimen of urine, a Gram stain on the uncentrifuged urine, and culture if bacteria are seen therein, provided that the specimen is properly collected[1] and sent promptly to the laboratory. The method of collection should be clearly stated on the request and should be recorded in the chart.

I wish to express my appreciation for the assistance and advice of Miss Katherine Kirk, Bacteriologist, E.M.G.H.

References

1. Hart, E. L. and Magee, M. J. Collecting Urine Specimens. Amer. J. of Nursing, 57: 1323, 1957.
2. Kass, E. H. Bacteriuria and the Diagnosis of Infections of the Urinary Tract. Arch. Int. Med., 100: 709, 1957.



Flap Grafts

JOHN VAN DUYN, M.D.*

A knowledge of the uses of flap grafts may at times be of great value to the surgeon. Flap grafts are one of the two main types of skin grafts, the other being free grafts.

Free grafts are grafts which are detached completely from one part of the body for application to another. Classifying them as to depth, there are the thin split, thick split and full thickness grafts. Classified as to area, there are the pinch, postage stamp and others. There are also free grafts called composite grafts which may include fat alone, or fat and cartilage as well as skin. A good example of the composite graft is the wedge composed of the full thickness of the ear from front to back. Such a wedge can be detached completely from the ear and made to take on, say, the nose tip for the correction of an alar defect. Here the graft is so small, its vascularity so great and the blood supply of the recipient part so good, that circulation can be restored in it before the tissue dies. Ordinarily, however, when skin to be grafted contains more than just epidermis it must be left attached at some part before it can be made to take on its new site. This applies to the flap graft.

In flap grafts the skin is cut around the planned area of the flap (for about four-fifths of its circumference) and the subcutaneous tissue raised with the skin from its bed. Thus the flap is left attached at one uncut portion called the pedicle.

Flap grafts must always contain subcutaneous fatty tissue for the passage of the additional blood vessels that help supply them and permit survival. After the flap has been raised and sutured to its new site (the site of the defect to be corrected), the pedicle is left attached until a new blood supply is established from the recipient area. If the flap needs only to be rotated a few degrees in order to cover the recipient area and the wound can be entirely closed at the same time, such a procedure may be completed in one stage (Cases 1 and 2). If, however, the flap is to be transferred to a more distant part of the body, such as from abdomen to arm or even from finger to finger, a second and often a third stage will be required (Cases 3 and 4).

When a skin flap has been raised, attached to another part of the body and the old bed of the flap has been closed, the pedicle of the flap remains open and will drain serum and tend to become steadily thicker and stiffer. Even infection may supervene and increase the difficulties of care. To avoid the disadvantages of an open pedicle, the tubed pedicle was devised.[1] By tubing a flap, its transfer may be carried out in the absence of any open wound. This has also the advantage of permitting added motion between the recipient and the donor areas (Case 5). In preparing a tube flap it is well to trim fat from the edges and suture loosely, else postoperative swelling may constrict and destroy the flap.

Flap grafts whether open or tubed may be transferred to even very distant areas of the body, as from the abdomen to the lower leg, by means of an intermediate attachment called a "carrier." A flap graft prepared on the abdomen, for example, and preferably tubed, may be first attached to the wrist then later the abdominal end may be cut loose and carried to the leg via the arm.

The disadvantages of the flap graft as against the free graft include the greater difficulty and longer time of operations, the necessity for staging and often the need for more exacting aftercare. As against these disadvantages, however, the flap graft affords a piece of skin together with more or less of its subcutaneous fat which is suitable for the repair of defects not satisfactorily correctable in any other way. Where parts of tendons have been bared, for example, coverage should be effected by skin containing its subcutaneous fat (a flap graft) and not by skin alone. Where areas of bone have been uncovered and especially when future orthopedic work is contemplated at the site, a flap graft is usually essential.

On the flexor surfaces of joints where contractures have developed, the flap graft and not the split graft should again be used whenever possible. The elasticity of a flap will permit joint motion which scar tissue developing under a split graft, might restrict. The needed flap grafts in this last instance are often secured by raising them locally from unscarred surrounding tissues and the contractures corrected by a so-called Z-plasty (Case 6). Such flaps may also be obtained from another digit or limb (the cross-finger or cross-leg flap).

Finally, flaps may be used to cover a perforation such as a hole in the cheek (Case 2), and for the reconstruction of lost organs such as eyelids, lips, cheeks and the nose (Case 5).[1]

When a flap is to be prepared, whether to be left open or tubed, the ratio of the length of the flap to the width of the pedicle must be planned in advance. This ratio depends not only upon the vascularity of the tissue out of which the flap is to be constructed,

*Department of Surgery, Eastern Maine General Hospital, Bangor, Maine.



FIG. 1. CASE 1. Basal cell carcinoma of nose in a 37-year-old male.



FIG. 2. CASE 1. Carcinoma excised with margin and cheek flap raised.

but upon the possibilities of incorporating one of the larger arteries in the subcutaneous tissue of the flap. If this latter can be done there is almost no limit to the ratio of length to width of flaps that can be successfully transplanted. These relatively long flaps are most readily obtained about the face and scalp where such arteries as the superficial temporal (sickle flap),[1] supraorbital (forehead flap) and superior and inferior labial (Abbe lip flap) (2, Chapter 10, Fig. 426) are used to such advantage. There is also an area on the trunk where relatively long flaps may be constructed. This is along the line of the thoraco-epigastric vein (Webster's "thoraco-epigastric" flap) (2, Chapter 1, Fig. 12).

Usually on the abdomen, thorax and extremities, however, and often on the face and scalp, flaps are prepared without regard for the presence of the larger vessels, but according to a rule, that of the 3 to 1 ratio. This ratio does not mean length of flap to width, but length of both cut sides to the width of the pedicle. Thus in raising a single pedicle flap, the skin cut along the sides of the area to be raised (not including the end) must add up to not more than three times the width of the pedicle. For example, if a quadilateral flap is to be raised on the abdomen and the pedicle is to be one inch in width, the flap must be no more than one and one-half inches long and have an area of one and one-half square inches (Fig. 20, A).

When a flap graft is to have a double pedicle, this also doubles the blood supply and pedicles of one inch in width will then support a flap three inches long (Fig. 20, B). This holds for tubed as well as untubed flaps (Fig. 20, C).

Where vascularization is better than it is in the trunk and abdomen, for example, in the hand, head and neck, the 3 to 1 ratio may be increased to one of 4 to 1 (see 4 to 1 flap in Case 2). Where the blood supply is poorer however, as for example over the lower back

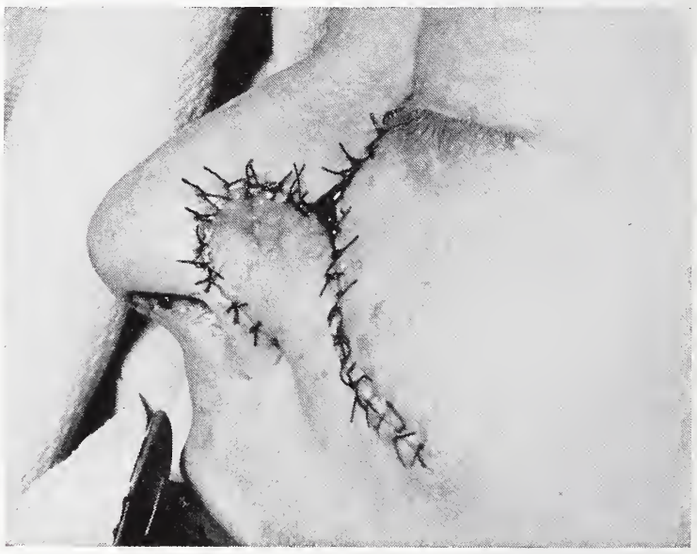


FIG. 3. CASE 1. Flap swung to cover defect. Donor area undermined and sutured. Operation performed in one stage.

and sacrum, or when any subcutaneous tissue to be raised is excessively fatty the 3 to 1 ratio should be decreased to one of 2 to 1. Thus flaps to cover decubitus ulcers are usually planned using the 2 to 1 rather than the 3 to 1 ratio and before rotating the flaps to cover the defects they must often be "delayed" in the bargain.

The "delaying" of flaps is a valuable procedure for increasing the blood supply wherever it appears inadequate. It consists in raising all or part of the flap from its bed, immediately suturing it back down again and waiting for an estimated period of time (usually seven to ten days). Sometimes more than one "delay" is necessary.

In preparing a flap for transfer other factors than the vascularity of the area and the possibility of incorporating large vessels into the subcutaneous tissue

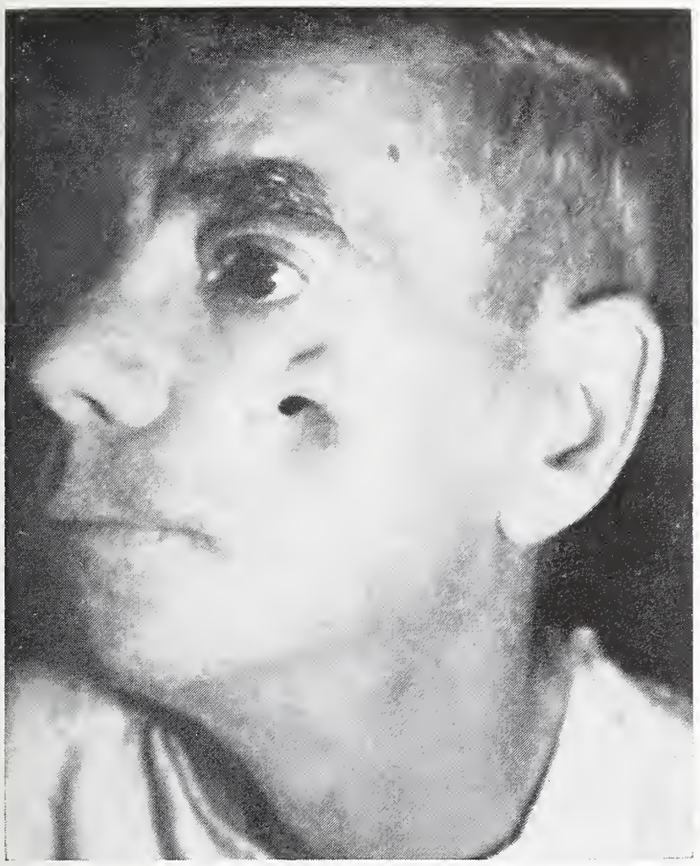


FIG. 4. CASE 2. Preoperative photograph of a 74-year-old male with a perforation of the cheek of four years duration following a tooth extraction and osteomyelitis of upper jaw.



FIG. 5. CASE 2. Showing cheek flap of slightly more than 4 to 1 ratio transferred medially to cover denuded and lined perforation.



FIG. 6. CASE 2. Donor area of cheek flap has been closed by a split graft sutured in place. Sutures have been left long to tie over stent type dressing.

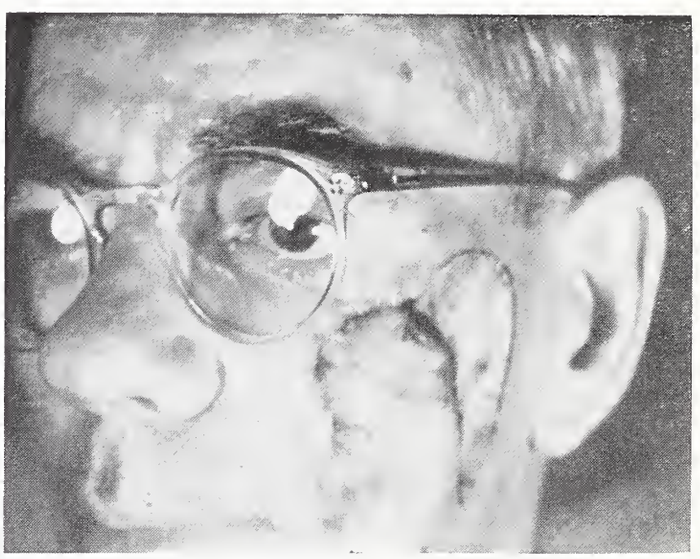


FIG. 7. CASE 2. Photograph taken seven days postoperatively showing result of closure of perforation by cheek flap and split grafted donor area. The flap shows a narrow rim of crusting on outer side where blood supply was inadequate.



FIG. 8 CASE 3. Photograph of forearm stump of 31-year-old male one month after traumatic amputation when he caught hand in gears of a power machine. A flap graft is needed to support pressure of a prosthesis. Note outline of flap on flank already "delayed."



FIG. 9. CASE 3. Flap from flank has been sutured to stump six days after "delayed," and split graft applied to donor area. Plaster cast holds flap in place.

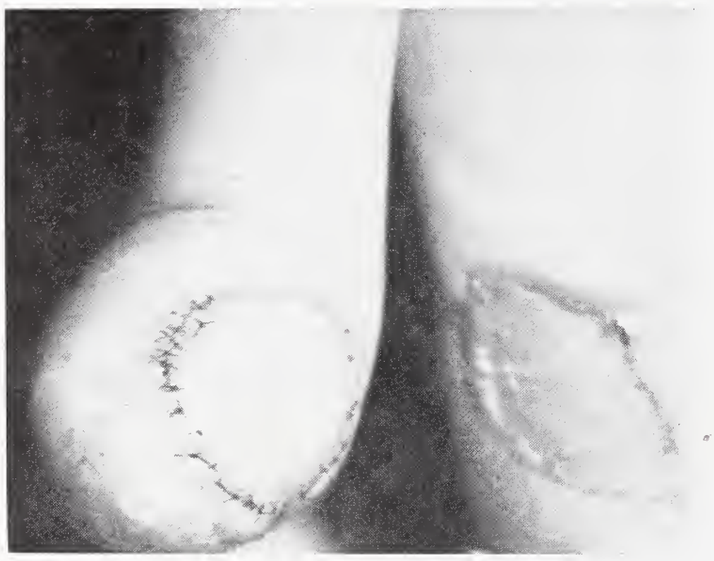


FIG. 10. CASE 3. Photograph showing flap sutured in place on forearm eight weeks after transferred from flank, and two weeks after severing of pedicle. (The times were prolonged in this case because of special difficulties.) Note donor area on flank covered by split graft.



FIG. 11. CASE 4. Preoperative photograph of right thumb tip of 37-year-old male, taken 48 hours after injury sustained when caught hand between boat and dock while on fishing trip.



FIG. 12. CASE 4. Defective area of thump tip has been sutured to a palmar flap (note booted tension suture). This was first stage of a two stage procedure. (The second stage was performed two weeks after the first.)



FIG. 13. CASE 4. Photograph taken two months after original injury showing repaired defect of thumb tip. Splitgrafted donor area is also visible at base of index finger. Function of hand is normal.



FIG. 14. CASE 5. A 29-year-old female admitted for reconstruction of nose tip which was amputated by broken window glass in escape from fire six years before. Double pedicle tube flap constructed over left clavicle. Split graft applied to donor area beneath tube. (See Fig. 15 for preoperative condition of nose tip.)

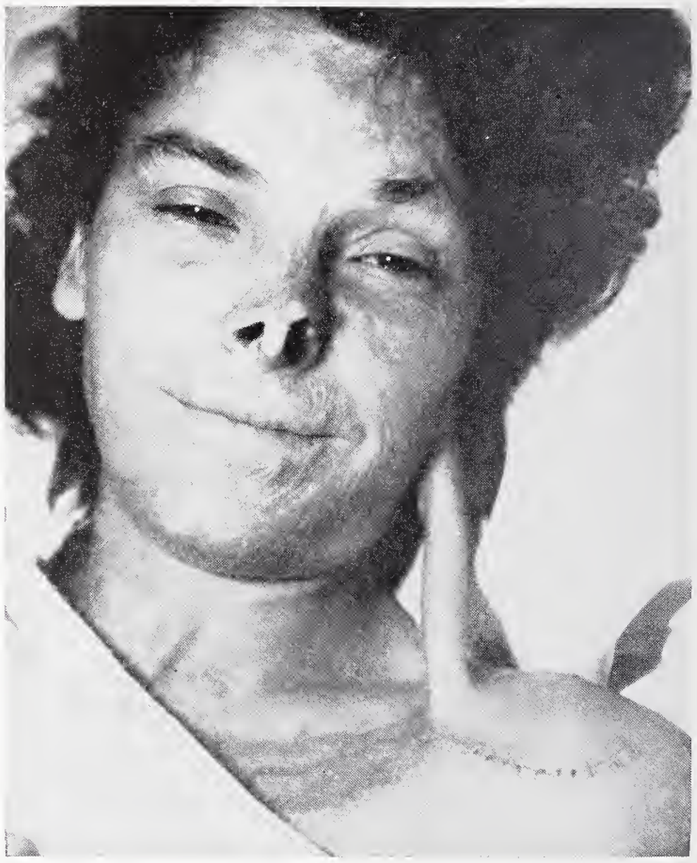


FIG. 15. CASE 5. Photograph taken four month after construction of tube flap. Inner end of tube has been migrated to below left ear; outer end has been partially "delayed" (outlined, undercut and sutured back in place) and is ready for transfer to nose.



FIG. 16. CASE 5. Outer end of tube flap has been migrated from shoulder to nose tip. Next stage is migration of end now attached below ear to join first end on nose tip. (This stage is not shown.)

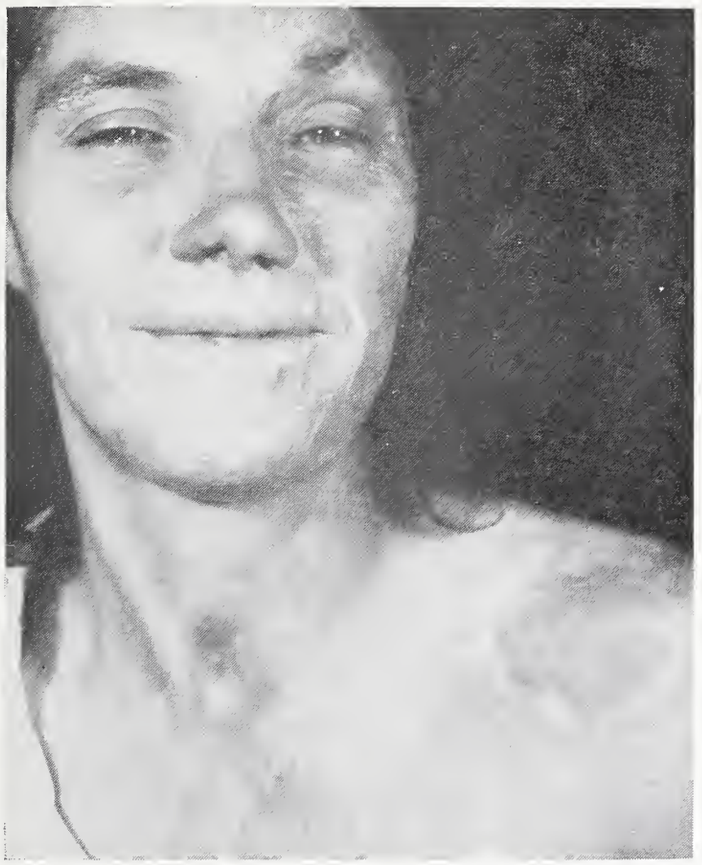


FIG. 17. CASE 5. Photograph taken after preliminary reconstruction of nose tip from tube flap just before final procedure. (Patient did not return for final photographs.) Note split grafted donor areas over left clavicle. Above photograph taken one year after first operation. The time was prolonged by numerous intervening delays not related to procedures.



FIG. 18. CASE 6. Preoperative photo of axillary burn scar contractures in 10-year-old boy. Burns were sustained two years before when gas stove exploded in the home.



FIG. 19. CASE 6. Photograph taken four months after Z-plasties on each axillary web. The interdigitating triangular flaps can be clearly made out on the right side. No split grafts were used.

may also need consideration. For one, the presence of fibrosis in the flap from whatever cause, laceration, irradiation, infection or burn, is always important. Fibrosis in a flap may so impair its blood supply as to nullify the usually safe rules for planning its outline and depth.

Still other factors that may need to be taken into account include the age of the patient, his general condition, degree of anemia, total proteins and albumin-globulin ratio. The presence of hypertension with its usually increased capillary fragility may also affect the survival of a flap.

The length of time after the transfer of a flap before the pedicle can be severed varies, as would be expected, with the ratio of the flap's length to its width and with the vascularity of the area itself. If, for example, a simple abdominal flap has been prepared by the 3 to 1 rule and attached to the area of defect on, say, the arm; at least three to four weeks should be allowed to pass before severing the pedicle. This time may be reducible to two weeks in the case of some head, neck and hand flaps while needing to be increased to five or six weeks for flaps of the lower back and sacrum. Whatever the time decided upon for a particular flap the circulation should first be tested whenever possible before cutting the pedicle. This is done by temporarily pinching off the blood supply of the pedicle at the

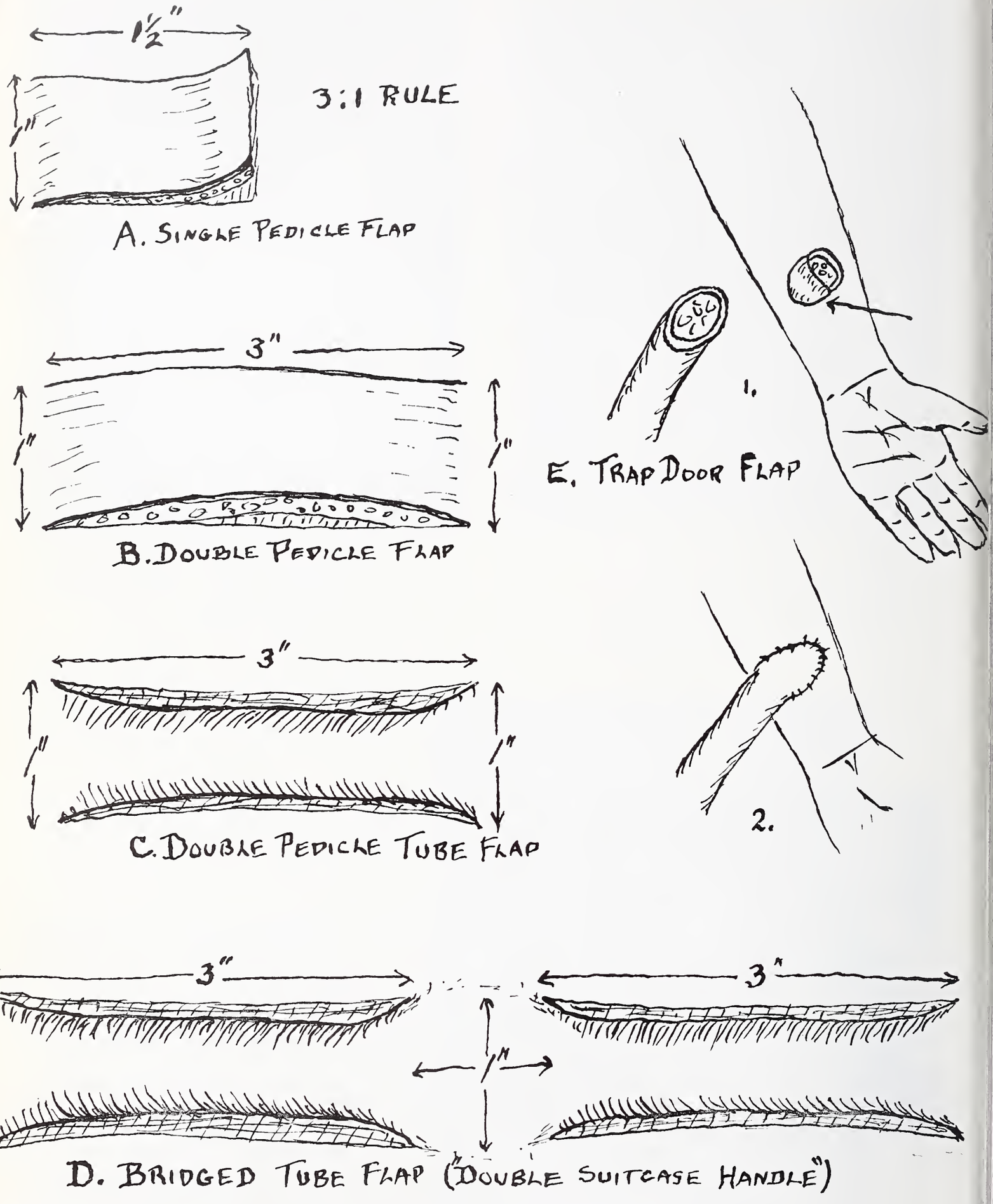


FIG. 20. Drawing of Various Types of Flap Grafts.

site selected and observing the circulation in the rest of the flap. If the flap turns cyanotic one should wait for three days and repeat the test. The tests should be continued at intervals until the flap no longer develops cyanosis upon constriction of its pedicle. The blood supply may be easily pinched off in most instances by applying parts of a tongue depressor to either side of the base of the pedicle (whether open or tubed), and drawing them together at the ends by means of elastic bands. Besides simply observing the color of the flaps after shutting off the circulation in the pedicle, tests may be used such as the atropine[3] the fluorescein[4] and the saline wheal.[5]

After a pedicle has been severed it is not always well to trim and seat the proximal end of the newly transferred part at once. While the donor end; i.e., the stump of the original pedicle can safely be set back into its old bed immediately, the transferred end must be left "flapping" for a few days before it can be subjected to even the relatively slight distortion necessary to seat it. This rule does not always hold for hand and head and neck flaps. Here the blood supply is so good that both ends of the severed pedicle can usually be seated immediately, and often after only two weeks of attachment as already mentioned above.

The denuded bed from which a flap has been raised is usually best covered with a split graft (Cases 2, 3, 4 and 5), though occasionally, as when the bed is a narrow one, the edges of the bed can be safely undermined and drawn together without grafting (Case 1). When a flap is to be "delayed," that is, raised in its own bed and immediately sutured back again, the bed should never be covered with a split graft before replacing the flap in it unless at the same time the split graft is folded over itself, thus "lining" the flap. (Oscasionally flaps are lined instead of being tubed.)[6]

When a flap such as an abdominal tube flap is to be transferred to a distant site such as the foot, this is best done by the use of a "carrier," usually the wrist. The attachment of the flap to this carrier is best made by what is called a trap-door flap. In this technic a semilunar area is turned back making a fully circular denuded area to which a corresponding area in the tip of the tube flap can be sutured[7] (Fig. 20, E).

When very long flaps are desired they are best prepared by "bridging" (2, Chapter 1, Fig. 14). This consists in leaving a central area attached while a tube flap is raised on either side (the "double suitcase handle"). The bridge itself is later tubed to become a part of a final long tube (Fig. 20, D).

Summary

The difference between flap grafts and free grafts is given. The advantages and disadvantages of the flap grafts are discussed together with the value of tubing the pedicle.

The main uses of the flap grafts are brought out together with the importance of selecting them rather than split grafts in certain instances.

The methods of planning, preparing and transferring flap grafts are briefly presented.

References

1. New, G. B. and Erich, J. B. The Use of Pedicle Flaps of Skin in Plastic Surgery of the Head and Neck. Charles C. Thomas, Springfield, Illinois, 1950, Chapters 2 and 3.
2. Smith, Ferris. Plastic and Reconstructive Surgery. W. B. Saunders Company, Philadelphia and London, 1950, Chapters 1 and 10.
3. Hynes, Wilfred. A Simple Method of Estimating Blood Flow with Special Reference to the Circulation in Pedicled Skin Flaps and Tubes. Brit. J. Plastic Surg., *1*:159, 1948.
4. Hynes, Wilfred and Macgregor, A. G. The Use of Fluorescein in Estimating the Blood Flow in Pedicled Skin Flaps and Tubes. Brit. J. Plastic Surg., *2*:4, 1949.
5. Conway, Herbert, Stark, R. B. and Doktor, J. P. Vascularization in Tubed Pedicles. J. Plastic and Reconstruc. Surg., *4*:133, 1949.
6. Mustarde, J. C. A New Technique for the Rapid Transfer of Abdominal Skin Flaps. J. Plastic and Reconstruc. Surg., *11*:454, 1953.
7. Neumann, C. G. and Von Wedel, J. The Immediate Attachment of Double Pedicled Tubed Flaps to the Carrier (Wrist) in Preparation for Transfer to a Distant Site. J. Plastic and Reconstruc. Surg., *11*:169, 1953.

205 French Street, Bangor



Long-Term Anticoagulation Therapy

WILBUR B. MANTER, M.D.*

Because hemorrhage seemed a frequent complication of long-term anticoagulant therapy, and because its causes are many and varied, 46 patients so treated by the staff of this hospital were reviewed. This was not a planned study. Patients were treated and managed independently by various staff physicians. No attempt was made to evaluate the indications for or the effectiveness of long-term anticoagulant therapy. Physicians were asked to provide information of a limited nature, designed to indicate gross complications of the treatment itself and why these occurred.

The information derived from a report of this type must be evaluated in the light of the small number of patients in the series and the methods used to gather the data.

All the patients received Dicumarol®. The Quick prothrombin test was the laboratory guide. All tests were done by the Stodder Laboratory, Eastern Maine General Hospital, using acetone dehydrated rabbit brain thromboplastin (Difco). The tests are considered to have been reliable. The usual normal control time varied from 13 to 15 seconds. The "therapeutic range" objective varied somewhat among the physicians and probably varied from time to time for many of the individual physicians. Between 25 and 30 seconds would be an approximate average.

Treatment was undertaken for 36 of the 46 patients primarily because of coronary heart disease. The principal reason for long-term anticoagulant therapy in the remainder was some form of recurrent peripheral venous thrombotic disease in five, presumed thrombotic cerebrovascular disease in four, and atrial fibrillation with multiple pulmonary emboli in one. Some of the cases had more than one of the mentioned conditions.

The longest treatment period was seven years. The shortest, including patients still under treatment, was one month. With the exception of one patient, whose treatment began in 1948, therapy wase initiated in 1950 or later.

In exactly one-half (23) of the patients, long-term anticoagulant therapy has been terminated. Treatment was stopped in 14 because of hemorrhage, in two because they were uncooperative and in one because of a hazardous occupation. Six patients died. Five patients had hemorrhages severe enough to temporarily interrupt the treatment, but in each of these, long-term anticoagulant therapy was resumed. Only one living patient had a recognized thrombotic episode during treatment.

Concerning the six patients who have died: The cause of death in two is presumed to be unrelated to the therapy or to the disease for which it was instituted. Of the remaining, one died of acute myocardial infarction, confirmed by electrocardiograms, but his control had been difficult and the prothrombin time taken just after symptoms of the infarct developed was only 19 seconds, well below the ordinary "therapeutic range." The other three patients died abruptly, presumably of an acute cardiac episode. One of these had prothrombin times running between 17 and 22 seconds, also well below the ordinary "therapeutic range." The other two patients were presumed to be in good anticoagulant control. One of these two developed what was probably acute heart failure while having typical symptoms of "renal colic," including severe pain, and died in a few minutes. He had a known history of renal calculi. The other died suddenly at a Boston hospital shortly after admission for possible surgical treatment for severe chronic angina pectoris. Autopsy is said to have failed to reveal evidence of acute coronary occlusive disease or acute myocardial infarction.

Concerning the 19 episodes of hemorrhage: This group does not include those cases with small transient ecchymoses, microscopic hematuria, slightly positive stool guaiacs or other types of minor hemorrhage that may have been recognized. However, many of the hemorrhages included were apparently not severe. Of these 19 episodes, 11 patients were "out of control" at the time of hemorrhage, at least the last prothrombin time before the hemorrhage was over 40 seconds. The other eight patients were considered to be "probably controlled." Their course had been reasonably stable and the last prothrombin time was not over 35 seconds. Both of these groups will be discussed later.

The average duration of treatment at the time of hemorrhage was five months. The average length of treatment for the 46 cases was 12 months. Nine of the hemorrhages, or almost half, occurred within two months of the beginning of treatment. Five patients were restarted on the treatment after hemorrhage was controlled, and the only patient to bleed again was one with a history of ecchymoses recurrent for 20 years, and treatment was terminated because of repeated ecchymoses. The forms of hemorrhage were: gross hematuria, nine; ecchymoses or hematomata, four; gastroin-

*Department of Medicine, Eastern Maine General Hospital, Bangor, Maine

testinal bleeding, three; cerebrovascular bleeding, one; pulmonary bleeding, one.

Comment: In regard to the sudden deaths in this series, and incidentally to sudden deaths for coronary patients in general, a recent autopsy study[1] of 250 patients who had previously survived a myocardial infarction is provocative. Of these 250, 64 had died suddenly, and only 15 were found to have pathologic evidence of fresh myocardial infarction. The other 49 sudden deaths were considered to be "due to major disturbances in cardiac rhythm arising from an ischemic myocardium." Three of the six deaths in our series could conceivably have been due to this cause.

The 40 per cent incidence of hemorrhage is high, both by itself and in comparison with the figures usually reported. There are various factors recognized as contributing to this high incidence here, and several are commented on.

In the first place, most reports mention or imply that "insignificant" bleeding is frequent and more or less to be expected. All episodes of such bleeding are not included in the figures reported. The incidence given in the reports I have seen vary from 3.5 per cent[2] to 42.1 per cent[3] and in Nichol's large cooperative study, it is 20.1 per cent.[4] These figures vary to some extent at least according to what is considered "significant" hemorrhage. The duration of treatment would likewise be expected to influence the incidence. Our average duration of treatment of 12 months is not long and some of the hemorrhages were by no means severe.

In any event, the reported deaths directly attributable to hemorrhage are few. The incidence in Nichol's series of 1,091 patients is given as 0.5 per cent. There were no known deaths from hemorrhage in our series.

Although full data were not obtained for medical conditions other than that for which the treatment was prescribed, there were six patients, who accounted for seven episodes of hemorrhage, known to have conditions predisposing to bleeding. In these six, the indications for the anticoagulant were considered by the patient's physician to be sufficiently strong to take the "calculated risk." Each of the six happened to bleed. The bleeding in each instance could be related to the predisposing condition — each of which was different. They were: recurrent ecchymoses for 20 years (cause undetermined), carcinoma of bladder, renal calculus (removed before anticoagulation treatment), "healed" duodenal ulcer, alcoholism and the one female patient in the series not postmenopausal. This last patient was treated in 1948. She was about 25 years old and her prothrombin time was considerably prolonged beyond the "therapeutic range" when she developed hemoperitoneum from a ruptured graafian follicle.

The last prothrombin time prior to hemorrhage was over 40 seconds in 11 instances, and these patients were arbitrarily considered as "out of control" at the time of hemorrhage. It would seem to be in this particular subgroup of the hemorrhage cases where improved management could be most fruitful in prevention of bleeding. This series includes the early experience of both the hospital staff and 11 private physicians using this form of treatment. Since many of the hemorrhages occurred in the early months, the interval between Quick tests may have been lengthened too soon. During the first several months, no matter how stable control seems to be, an interval of one week is long enough. Reports of experience by others indicate that two weeks is a maximum interval even for the apparently well controlled and stable cases.[5]

Eight patients were considered "probably controlled" at the time of hemorrhage. Although two did have predisposing conditions for bleeding, this group brings up a number of problems. Even though the last prothrombin time was considered satisfactory, it was taken several days prior to onset of hemorrhage. Were they "controlled" at the time of hemorrhage? Some patients with a reasonably stable course are known to have a fast rise in prothrombin time. Was the laboratory report, in spite of our apparently consistently good laboratory results, correct? However, it is most probable that at least several of these patients did bleed with a Quick test in a satisfactory therapeutic range.

The mechanisms by which blood does clot are complicated and admittedly are ill-understood. Various reports suggest that the Quick test does not always reflect the true anticoagulant state, and in some clinics it has been supplanted.[6] Wright[7] indicates that the source of thromboplastin used with the Quick test appreciably influences the results and suggests the use of rabbit lung rather than rabbit brain thromboplastin. Sise[8] uses another test, Owren's prothrombin concentration, in conjunction with the Quick test and reports thereby a lessened incidence of both hemorrhagic and thrombotic complications.

To paraphrase Sise's postulates, two separate chains of events may each lead to the formation of prothrombinase, a substance that activates prothrombin. The Quick test, according to Sise, reflects mainly the activity in only one of these chains. Anticoagulants, such as Dicumarol, depress events in both chains, but not necessarily to the same degree. Hence, the occurrence of bleeding or clotting while the Quick test is in the "therapeutic range" might be explained according to the effect of the anticoagulant on the unmeasured chain.

If, following hemorrhage, the original indications for treatment were still present, perhaps more of these patients should have been restarted on anticoagulant therapy. This has been done by others for selected cases with a reported low incidence of recurrent hemorrhage.[2]

Discussion: The objective of long-term anticoagulation therapy is clear — prevention of thrombotic disease, but here the clarity seems to stop. In the first place, one does not have assurance that the objective can be attained, even with good management. As Katz[9] has recently indicated, the value of this treatment for prevention of myocardial infarction is still an unsettled


ACHROM
ACHROM
ACHROM
ACHROM
ACHROM
ACHROM
ACHROM
ACHROM
ACHROM
ACHROM



Tetracycline with Citric Acid *LEDERLE*

RLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York Lederle

question. When one undertakes management of the therapy, one is posed with a problem, individual to each patient, with all factors involved subject to capricious behavior. The ill-defined guideposts for the course for safe procedure between hemorrhage and thrombosis seem at times to allow the dangers to overlap. One must decide within what range he will try to keep the test that *may* measure the anticoagulant effect of the drug given and hope, if this can be maintained, that neither thrombosis or hemorrhage will occur. Hemorrhage may occur in a patient not receiving any anticoagulant drug, and thrombosis may occur when the Quick test would appear to indicate that it should not.

Further, one has to make and accept compromises. At some point after treatment has begun and reasonable control has apparently been established, one cannot continue to have prothrombin times done as frequently for various reasons, usually called "practical." However, it may be impractical, inconvenient and expensive for the patient to have to be disrupted from his usual routine to have a hemorrhage checked and his blood loss replaced. Various extraneous conditions may interfere with the control, for example, intercurrent infections, need for surgical procedures, including tooth extractions and the anticoagulant aggravating effect of drugs, such as salicylates and alcohol.

Tempered by this experience and by that reported by others, certain points seem worthy of emphasis:

1. *The patient.* He should be both intelligent and cooperative. He should be thoroughly indoctrinated in the program and its possible complications. He must understand the purpose of the treatment, the "calculated risk" that he takes with it and that he is committed indefinitely. He should know the indications of bleeding, including the not always obvious signs of blood loss in urine, vomitus and stool. He should know that he must promptly report unexplained weakness, malaise or other symptoms and any acute illness. He should know of the additive anticoagulant effects of alcohol and the salicylates. He should carry a card indicating the treatment he is receiving and his blood type. He should always have with him countermeasures for bleeding, especially vitamin K-1, as Mephyton,® both the tablets and an ampule for injection. The family and close associates should be aware of the treatment.

2. *Laboratory.* A thoroughly reliable laboratory is an absolute prerequisite. This gives rise to problems in a rural state like Maine. There are areas where the patient is inconveniently far away from a laboratory where the test is now reliably done. From personal experience, I feel it is of prime importance that the laboratory be doing an adequate number of Quick tests daily. The laboratory that does not do an adequate number daily may fail to recognize the variants due to change in reagents or the technique of end-point determination.

3. *Other.* Choice of drug is a matter of opinion. Until more complete evidence is available to indicate choice, one had probably best stay with the drug he has accumulated experience with from management of the usually easier "short-term" cases.

It can save confusion both for doctor and patient if the same size capsule is always used. For example, if Dicumarol is used, the 25 mg. capsule is usually convenient. If always prescribed by the doctor to all his patients, any patient who calls up for advice on dosage can be advised in terms of the number of capsules, and the doctor will know the dose he is advising. Since absorption of drugs given by capsule is often more reliable than by tablet, I specify capsules on my prescriptions.

If the prothrombin time becomes prolonged or there is minor bleeding, especially from a site that can be controlled by simple measures if necessary, holding up on the anticoagulant or, if necessary, the use of only small doses of vitamin K-1 will be less disrupting to the program. Large doses of vitamin K-1 are likely to leave the patient relatively refractory to anticoagulant effect for a few days at least.

In conclusion, this case collection of patients given long-term anticoagulant treatment warrants no conclusion. It is not intended here to particularly encourage or, with good laboratory available, to discourage the use of this form of treatment. One cannot say that the patients in this group are better or worse for having been so treated. The indications, contraindications, management of therapy and results are outlined by numerous reports and a few representative references have been cited.

If one plans to use the method, the question as to whether or not a given patient with a presumed recurrent or progressive thrombotic disease should be put on an anticoagulant for the rest of his life is both a serious and difficult decision. Again, it is best said that the value of the treatment has not yet been thoroughly established, however promising it so far appears to be. Neither the ideal drug for the purpose nor the ideal control test has yet arrived. With the laboratory controls commonly used, either thrombosis or hemorrhage can occur, even if the patient's tests are maintained in the "therapeutic range," and for some patients, control within this range is difficult. Even after the dosage of the anticoagulant seems well established, there would seem to be patients, for reasons not always clear, whose tests seem to rather abruptly wander off to ineffectively low or dangerously high levels.

References

1. Achor, R. W. T., Futch, W. D., Burchell, H. B., and Edwards, J. E.: The Fate of Patients Surviving Acute Myocardial Infarction. Arch. Int. Med. 98: 162, 1956.
2. Manchester, B.: The Value of Continuous (1 to 10 years) Long-Term Anticoagulant Therapy. Ann. Int. Med. 47: 1202, 1957.
3. Keyes, J. W., Drake, E. H. and Smith F. J.: Survival

Continued on Page 482

Clinico-Pathological Exercise*

Presented by Robert O. Kellogg, M.D.
Edited by Richard C. Wadsworth, M.D.

Clinical Abstract

This 73-year-old widow was admitted to the E.M.G.H. on 8-22-58 because of shortness of breath and weakness. Her first E.M.G.H. admission was on 11-15-57 because of a tumor on the left side of her neck which had been progressively enlarging for about four months. It was essentially painless and was not associated with any known intra-oral or other lesion. There has been no hoarseness or dysphagia. There has been no known weight loss She has had no dyspnea, orthopnea or cough. She has had occasional "heart burn." There has been no nausea, vomiting, abdominal pain or melena. There has been no dysuria, hematuria, vaginal bleeding or discharge. There has been marked frequency. In 1925 she had a hysterectomy, bilateral salpingectomy and oophorectomy, and appendectomy.

Physical examination (November, 1957) revealed an alert, elderly, obese, well-developed woman in no apparent distress, with temperature 99° F.; pulse 92; respirations 20; blood pressure 130/80 mm.Hg. Her mouth was edentulous. There was marked irregular enlargement of the left tonsil which was the size of a walnut, but non-tender. An egg-sized fixed mass was palpated in the left neck extending from just below the ear lobe to the clavicle. There were several smaller adjacent masses, one of which extended to the lateral third of the clavicle. A 2 x 2 cm. mass was palpable in the right submaxillary area. The trachea was in the midline. The lungs were clear to auscultation and percussion. The A-P diameter of the chest was increased. The heart sounds were distant. There was a regular sinus rhythm. The breasts were pendulous without palpable masses. The abdomen was markedly obese with no tenderness or palpable masses. Vaginal examination revealed a complete prolapse of the bladder, about the size of an orange. There were no palpable rectal masses. The extremities showed moderate varicosities. The pedal pulses were palpable bilaterally.

*Case presented at Eastern Maine General Hospital, Bangor, Maine, October 2, 1958.

X-Rays

(A 64,752)

Chest (11-15-57: The heart is the upper limits of normal in size. The lung fields are clear without evidence of pulmonary metastases. Visible portions of the thoracic cage are not remarkable except for the expected degenerative changes in the dorsal spine.

Chest (8-22-58): Since the previous examination in November 1957, there has been marked enlargement of the heart shadow. The pulmonary arteries are increased in size. There may be a small amount of fluid in the right pleural space. The findings are not likely on the basis of cardiac failure.

Upper G.I. (8-25-58): Negative examination of the esophagus. Small hiatus hernia through the esophageal hiatus without demonstrable ulcer or neoplasm of the stomach or duodenum. No obstruction from mouth to hepatic flexure. Gross displacement of the stomach to the left and downward as if by enlargement of the left

Laboratory Findings

Blood Group O, Rho positive; Kahn and Hinton negative.

Date	*Hb.*	*Hct.*	*WBC*	*NPN*	*Dextrose*	*Alk.Phos.*	*A/G*	*PBI*	*K.*	*Cl.*
November 16, 1957	16.5	—	8.0	43	103	—	—	—	—	—
August 23, 1958	—	41	6.75	32	—	3.0	3.1/3.1	—	—	—
August 25, 1958	—	43	10.4	—	—	—	—	5.0	—	—
September 2, 1958	—	43	7.7	59	—	—	—	—	—	—
September 8, 1958	—	33	—	53	—	—	—	—	5.2	—
September 10, 1958	—	39	—	—	—	—	—	—	—	99
September 12, 1958	—	38	—	—	—	—	—	—	—	—

Urine (8-23-58): pH 5.0; Sp.Gr. 1.006; Albumin 0.01 gm.; Sugar O; Acetone O; No casts; 30-50 wbc/hpf; 3-5 rbc/hpf.

E.C.G. (8-23-58): Sinus tachycardia (125/minute). Low voltage throughout all complexes. Low voltage may be related to pericardial effusion, diffuse myocardial disease, etc.

lobe of the liver or retro-peritoneal mass in this area. Fluid at both lung bases with normally functioning leaves of the diaphragm. Probable osteitis pubis of long standing.

Chest Fluoroscopy (8-27-58): Additional fluoroscopy of the chest reveals at this time free fluid in the pleural space on both sides, a heart shadow which appears to be without pulsation and which has a shape compatible with pericardial fluid in excess. Changing the patient from the erect to the prone position tends to widen the supracardiac area and changes somewhat the contour of the heart. Probable hydropericardium. Bilateral hydrothorax.

Chest (9-5-58): There has been no change in the appearance of the cardiovascular structures since 8-22-58. There seems to have been an increase in the amount of fluid as seen on the lateral view and apparently this represents fluid in the left pleural space at this time.

Clinical Course

During her first admission a surgical consultant felt that the tumor was too widespread to be excised by a radical neck resection. On 11-18-57 a needle biopsy of the left neck mass revealed striated muscle fibers among which were small infiltrating cells with uniform slightly hyperchromatic nuclei. No definite mitotic figures were identified. The pathologist interpreted this biopsy as indicative of a malignant mesenchymal tumor, probably lymphocytic lymphosarcoma. Radiation therapy was started on 11-23-57. She was discharged home on 11-26-57 to continue the therapy on an out-patient basis.

Her second hospital admission was on 8-22-58 because of shortness of breath and weakness. Her radiation therapy had been completed in December, 1957. The size of the mass in her neck had receded and an ache she had had in her left arm had completely disappeared. About May 1, 1958, her appetite became poor and she noted that some foods, including berries and meats, seemed to stop near the xiphoid region and were frequently regurgitated with a hurting pain. For about two months she had a hurting soreness in the R.U.Q. which usually accompanied stooping over, getting up or walking. She had felt weak for about three months. For about one month she had noticed increased shortness of breath. During the last week there had been mild peri-orbital fullness, but she denied leg edema, chest pain or cough.

Physical examination on 8-22-58 revealed a well-developed, obese, alert female who was dyspneic on exertion in bed. Temperature 100°; pulse 80; respirations 24; blood pressure, right arm 136/68; left arm 128/76. There was a papular erythematous eruption over the malar eminences. There was a small ecchymotic area on the left posterior chest. The entire left neck from the mid-clavicle to the mandible was thicker than normal. It was diffusely and smoothly indurated without any distinct nodules or nodes. The neck was non-tender. The left tonsil was about 3 cm. in diameter, smooth and non-tender. The fullness extended into the upper nasopharynx and probably down into the hypopharynx. There was some venous distention of the right cervical veins. Respiratory movements of the thorax were fair to poor bilaterally but symmetrical. Dullness extended from the mid-scapular area to the base and extended laterally on the left, but not on the right. There were a few moist rales on the left, extending toward the apex posteriorly and to a lesser extent on the right. A single area on the right showed increased breath sounds of almost tubular character. There was no change in voice sounds. The apex of the heart was percussed 13 cm. from the mid-sternal line. P_2 was greater than A_2. No murmurs were heard. Heart sounds were of good quality without a rub. The abdomen was obese with probable minimal edema of the abdominal wall. The liver was palpable in the mid-clavicular line and was slightly tender, extending 2½ fingerbreadths below the costal margin. No other masses were palpable. The spleen was not felt. There was a complete prolapse of the bladder. The urethral orifice was edematous and injected. There was a one plus edema of the extremities bilaterally, more marked on the right, extending to the mid-pretibial region. The dorsalis pedis pulses were palpable bilaterally. There was no clubbing or cyanosis. Deep tendon reflexes were equal throughout. Strength was equal. There was no tenderness or Homan's sign. Venous pressure (8-23-58) was 320 mm. saline. Circulation time (arm to tongue with Decholin®) was 37 seconds.

She was given a salt-free diet, theomerin and digitoxin. On 8-26-58 her blood pressure was 128/64 with a definite pulsus paradoxicus. Her lungs were clear, but edema persisted in her ankles and eyelids. On 8-26-58 a right thoracentesis yielded 300 cc. of turbid, orange-yellow fluid which clotted on standing. A cell block showed mature lymphocytes and was reported as Class II, negative. A pericardial tap was unsuccessfully attempted on 8-28-58. Nitrogen mustard, 7 mg. (0.1 mg./Kg) was given each day on 8-27-58, 8-28-58, and 8-30-58. On 8-29-58 a stool examination yielded a four plus guaiac. Tarry stools were observed. From 9-2-58 to 9-8-58 her hematocrit dropped from 43 per cent to 33 per cent. On 9-10-58 she was slowly given one unit of whole blood. Her hematocrit rose to 39 per cent. On 9-10-58 she was started on Diuril® and her digitalis was increased. The patient became progressively more dyspneic for the next few days. On 9-13-58 the lungs were moist with coarse-sounding rales and rhonchi. The patient expired at 10:45 p.m. on 9-13-58.

Case Discussion

Dr. Robert O. Kellogg: This 73-year-old widow was admitted to the hospital on two occasions, once eleven months ago and again nine months later. Her first

admission was because of a large tumor on the left side of the neck which was described as an egg-sized fixed mass extending from just below the ear lobe to the clavicle with several smaller adjacent masses. I should like to inquire about this egg-sized mass extending from the lobe of the ear to the clavicle. I would conclude that she had a very short neck.

Dr. Richard C. Wadsworth: She was a short obese woman with a short heavy-set neck.

Dr. Kellogg: The mass on the left side was associated with adjacent smaller masses and there was also palpated a 2 x 2 cm. mass on the right side, in the submaxillary area. Although the history states that the neck masses were not associated with any known intraoral or other lesion, the physical examination revealed a non-tender, irregular enlargement of the left tonsil the size of a walnut. Although I am not sure of the significance of this large tonsil, I am very suspicious that this is associated with the disease process going on in the neck. A needle biopsy of the mass in the left neck revealed striated muscle fibers among which were small infiltrating cells with uniform hyperchromatic nuclei but with no definite mitotic figures identified. The pathologist interpreted this biopsy as indicative of a malignant mesenchymal tumor, probably lymphocytic lymphosarcoma. I shall have to accept the interpretation of the pathologist in regard to this biopsy. Before discussing the second admission, I should like to hear the interval history which I am told is now available.

Dr. Hugh Smith: The patient was referred to the department of radiology for therapy. From 11-21-57 to 12-1-57 she received 2700 roentgens to the left side of the neck to include the left tonsil and the right submaxillary node. High filtration was used. The original field was 10 x 15 cms. and was later increased to 15 x 15 cms. The therapy was apparently effective. At the end of the therapy the skin was moderately reddened and she complained of some difficulty in swallowing which is customary because of the temporary drying up of the salivary glands secondary to the therapy. On 12-20-57 the skin was tan and there was no demonstrable lymphadenopathy. The patient appeared to be getting along very well, but complained of the usual dryness of the mouth. On 5-21-58 there was some palpable induration of the neck which was interpreted as post-radiation fibrosis. There were no palpable masses. The tonsil showed no demonstrable enlargement. She was told to return for observation in three months or sooner if she had any difficulties. She returned on 8-22-58 feeling extremely weak and short of breath. The tissues of the face were quite edematous. There was no demonstrable splenic enlargement. There was pitting edema of the extremities. The heart was enlarged and she appeared to be in circulatory failure. Admission to the hospital was advised and accomplished on 8-22-58.

Dr. Kellogg: At the time of her second admission she gave a history of progressive weakness and shortness of breath without associated chest pain, cough or edema in a previously normotensive patient. She had some associated gastro-intestinal symptoms suggesting partial gastric retention. Her first indication of bleeding tendency was a small ecchymotic area on the left posterior chest. It is of interest to note that the left tonsil was now 3 cms. in diameter, the approximate size of the tonsil before therapy was instituted. Physical signs suggested accumulation of fluid in the chest. It is doubtful if these signs could be produced by radiation fibrosis. There was some edema of the abdominal wall. The liver was slightly enlarged. The heart was obviously enlarged and P_2 was greater than A_2 without any demonstrable murmurs. An accentuated P_2 is often associated with murmurs of mitral stenosis in adults. In what conditions is P_2 accentuated in the absence of a murmur?

Dr. Laura Weed: It would be possible to have an accentuated P_2 without any murmurs in either primary pulmonary hypertension or in intrinsic left heart failure in the absence of valvular disease.

Dr. Kellogg: This point does not offer much help either in establishing or ruling out the cause of cardiac enlargement. Important findings are the markedly elevated venous pressure of 320 mm. of water and an elevated circulation time of 37 seconds, almost twice normal. On the fourth hospital day her blood pressure was 128/64 mm.Hg. with a definite paradoxical pulse. Her lungs were clear, but edema persisted in her ankles and eyelids. In spite of the notation that her lungs were clear on 8-26-58, a right thoracentesis done on that date yielded 300 cc. of turbid, orange-yellow fluid which clotted on standing. X-rays on 8-25-58 showed fluid at both lung bases. A course of nitrogen mustard was started on 8-27-58. On 8-29-58 tarry stools were observed and a guaiac test on the stools was recorded as four plus. From 9-2-58 until 9-8-58 the hematocrit dropped from 43 to 33 per cent. Two days later, following transfusion of one unit of blood, the hematocrit rose to 39 per cent. She became progressively more dyspneic the next few days and she expired on 9-13-58 after 22 days of hospitalization. She apparently had an excellent initial response to x-ray therapy. Her cervical lymphadenopathy disappeared. The enlargement of her tonsil disappeared but recurred. Her total leukocyte counts were normal. The abstract does not mention the differential counts.

Dr. Wadsworth: Only one differential count is recorded. On 8-23-58 when the W.B.C. was 6,750 per cu.mm., there were 70 per cent segmented polys; 3 per cent bands; 3 per cent eosinophils; 21 per cent lmyphocytes and 3 per cent monocytes. Two days later the platelets were 287,000 per cu.mm.

Dr. Kellogg: There is no evidence of a leukemic process. Of the four N.P.N.'s reported, the latter two are elevated and are probably related to a pre-renal azotemia. There is a minimal albuminuria and moderate

pyuria which can be explained on the basis of her cystitis. The A/G ratio is unity and is caused by a decrease in albumin. There is insufficient evidence to suggest severe renal disease. The serial chest films suggest pericardial effusion. The electrocardiogram, with low voltage throughout all complexes, shows nonspecific changes. Because of the serial x-ray findings, I believe that there was probably some pericardial effusion, but the patient did not show the clinical picture of cardiac tamponade to explain the paradoxical pulse. I would expect a fall in pulse rate to accompany a rapidly developing cardiac failure. Effusion may have contributed to her death, but I don't believe it caused her death.

Dr. Lawrence Weed: It was noted on the chart that the paradoxical pulse slowly disappeared after three treatments with nitrogen mustard, but her dyspnea continued and she became progressively worse.

Dr. Wadsworth: Would not the prolonged circulation time with Decholin be somewhat against the diagnosis of any extensive pericardial effusion? Dr. Samuel Levine says that a distinction of massive paricardial effusion from large dilated hearts is possible on the basis of the arm-to-tongue circulation time. In massive effusions, the time is less than normal or at most only slightly prolonged (8-22 seconds) whereas with dilated hearts the circulation time would be expected to be markedly prolonged.

Dr. Kellogg: There is nothing to suggest a pyogenic pleural effusion. The lack of fever, leukocytosis and lack of granulocytes in the pleural fluid are against that possibility. The gastro-intestinal hemorrhage characterized by tarry stools and positive guaiac test associated with a ten point drop in the hematocrit is difficult to explain. We know that she was in congestive failure and we know that there was an area of ecchymosis on her back. I do not believe there is any evidence to suggest a defect in her clotting mechanism, and I do not know where the bleeding came from.

Dr. Lawrence Weed: The indications of G. I. bleeding were not observed until after notrogen mustard had been administered.

Dr. Kellogg: I cannot attribute the gastro-intestinal bleeding to the administration of nitrogen mustard. I would expect that to occur in a matter of weeks rather than in two days. I suppose that the protein-bound-iodine was done to rule out the possibility of hypothyroidism.

Dr. Lawrence Weed: Yes, there were several findings which were discussed by the resident staff. She had some edema of her face. There was apparent loss of hair from the lateral aspects of her eyebrows and her voice was hoarse. When questioned she said this hoarseness was of several months' duration. Our thoughts about hypothyroidism were somewhat dispelled when Dr. Porter explained the hoarseness on the basis of radiotherapy to the neck region. A consulting laryngologist reported that both cords moved normally and felt that the voice changes were probably due to radiation therapy.

Dr. Hugh Smith: The radiation given would cover the area of the larynx as well as the salivary glands. The therapy temporarily dries up the salivary glands and dries the mucus membranes of the larynx. Usually the hoarseness lasts about as long as the dysphagia.

Dr. Lawrence Weed: How soon after radiation therapy does the hoarseness become apparent?

Dr. Smith: In the treatment of primary tumors of the larynx, some edema usually appears at about one and one-half weeks, but hoarseness and dysphagia are more apt to appear toward the end of two or two and one-half weeks.

Dr. Kellogg: In attempting to explain fluid in the serous cavities, possibilities other than lymphoma should be mentioned. The erythematous rash over the malar eminences described on her second admission might make one think of collagen disease, but confirmatory evidence of such a condition is lacking. One should also mention tuberculosis.

Dr. Lawrence Weed: The tuberculin skin test was negative.

Dr. Kellogg: The probable explanation is involvement by the lymphomatous process. There is also evidence to suggest that the heart was involved by the lymphoma. The low voltage shown in the electrocardiogram and the congestive failure might be explained on this basis. There could be focal myocardial damage resulting from infiltration by tumor. I am unable to say whether or not there is tumor in the myocardium.

Dr. Wadsworth: I should like to ask the radiologist if there is any evidence of mediastinal lymphadenopathy in the films.

Dr. Smith: In the films taken on the second admission there is marked cardiac enlargement. The area of the great vessels is considerably widened but in the presence of a rather marked pericardial effusion it would not be possible to say that this widening was not on the basis of the effusion. One cannot say anything definite about the mediastinal nodes.

Dr. Kellogg: To summarize my thoughts on this patient, I believe that she had generalized lymphosarcomatosis with probable involvement of the serious cavities, a retro-peritoneal tumor displacing the stomach, probably bone marrow involvement responsible for a disturbance in the coagulation mechanism, and she probably had some degree of pericardial effusion. Additional diagnoses are osteoarthritis of the spine, hiatus hernia, osteitis pubis and prolapse of the bladder. I believe that the terminal event was congestive failure probably on the basis of infiltration by lymphoma.

Dr. Wadsworth: There were several reasons for selecting this case for discussion. We wanted to select a patient who had been observed by at least some of our present resident staff. This patient offered many

problems to those who observed her, particularly in regard to the interpretation of physical findings and laboratory results. Finally there was a question as to whether therapy might have been more effective if earlier recognition of the extent of her disease had led to the earlier use of nitrogen mustard. I believe that this patient should have been followed in the Tumor Clinic after completion of her course of radiation therapy. It is possible more frequent observation and questioning during the interval between her two admissions might have led to earlier recognition of dissemination of the disease.

At autopsy the patient appeared moderately obese. The peritoneal cavity contained 80 cc. of blood-stained fluid. The small intestine, especially the ileum, and the cecum showed a purplish discoloration of the serosa. The mucosa of the small bowel was also congested and the mesenteric veins distended. No tumor was demonstrated in the small or large bowel. The left pleural cavity contained one liter and the right pleural cavity about one and one-half liters of clear, brownish fluid. No tumor could be demonstrated on the pleural surfaces. The pericardial sac was distended with 400 cc. of bloody fluid. There was no demonstrable rupture of the myocardium. The epicardium showed an abundant amount of fat in which there were numerous elevated yellowish-gray nodules measuring up to 1.5 cm. in diameter. Fibrin covered the epicardial surfaces. The heart (Fig. 1) weighed 546 gms. The right auricle was moderately enlarged and extensively infiltrated with tumor tissue, in one area measuring up to 3.5 cm. in thickness. Nodules of hemorrhagic tumor tissue protruded into the endocardial cavity (Fig. 1). Slight coronary sclerosis was present without evidence of coronary insufficiency. The left lung weighed 317 gms. and contained a single tumor nodule, peribronchial in location, situated at the approximate junction of the lingula and the rest of the upper lobe. The right lung weighed 374 gms. and contained a small area of peribronchial tumor infiltration in the lower lobe near the hilus. A small ante-mortem thrombus was found in an artery of the lower lobe. The hilar nodes were enlarged bilaterally. The spleen was small, weighing only 53 gms., and showed no evidence of tumor. An ulcer crater measuring 3.5 cm. in greatest diameter was found at the site of lymphomatous infiltration on the anterior wall of the stomach approximately half way between the cardia and pylorus. The liver weighed 1676 gms. The capsular surface was covered with multiple protruding tumor nodules measuring up to 6.0 cm. in diameter. Multiple tumor nodules were present in the left adrenal. The right adrenal was enlarged and consisted almost entirely of tumor tissue. The left kidney weighed 122 gms. Ten small tumor nodules protruded from the capsular surface. The right kidney (Fig. 2) weighed 250 gms. and was extensively infiltrated with tumor involving the calyces and pelvis and extending along a greatly thickened ureter with an almost obliterated lumen to a mass of paraaortic lymph nodes in the right lumbar gutter. The mesentery of the small intestine was diffusely infiltrated with tumor tissue especially at the root of the mesentery. The peri-pancreatic nodes were enlarged and the body and tail of the pancreas diffusely infiltrated with tumor. The estimated weight of the thyroid gland was 45 gms. Microscopically the architectural pattern of thy-



FIG. 1. Heart. Numerous small tumor nodules can be seen protruding from the epicardial fat. The irregular hemorrhagic tumor nodules are seen protruding from the surface of the endocardium into the cavity of the right atrium.

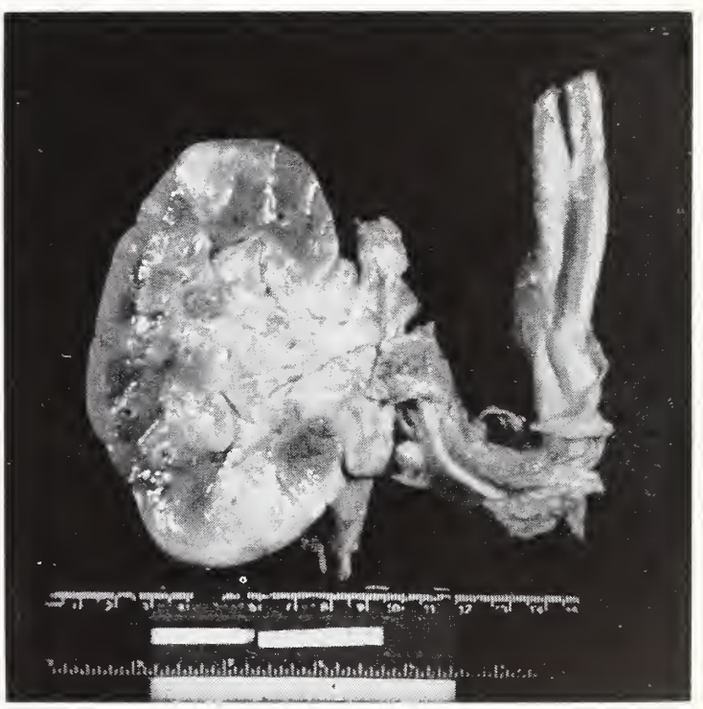


FIG. 2. Right Kidney. There is extensive infiltration of the kidney parenchyma, calyces, pelvis and ureter by the tumor.

roid tissue was almost completely obliterated by infiltrating tumor. Numerous nodules of grayish-white tumor tissue could be readily identified grossly in the vertebral marrow.

SUMMARY

The patient died as a result of widely disseminated lymphosarcoma of the reticulum cell type. The autopsy findings help to explain some of the features of this case which were clinically troublesome.

The epigastric pain and regurgitation may be related to an ulcerated lymphomatous lesion of the stomach. The tarry stools and positive guaiac can be related to the stasis of blood in the small bowel and cecum secondary to portal stasis due to mesenteric and retroperitoneal lymphadenopathy. Signs of superior vena caval obstruction can be attributed to tumor infiltration in the right auricle with partial obstruction of venous return to the heart. The radiological evidence of pericardial fluid is substantiated, although there seemed to be insufficient fluid to produce cardiac tamponade. Her pain and soreness in the right upper quadrant, accentuated by stooping over, can be attributed to the extensive involvement of the liver by tumor. The low voltage observed in the electrocardiogram may have been related both to the pericardial fluid and to the lymphomatous pericardial involvement. It is of interest that the patient's protein-bound-iodine was 5.0 micrograms in spite of the fact that anatomically her thyroid gland was almost completely replaced by tumor.

Pathologic Diagnosis: Reticulum cell sarcomatosis.

Simplified Claim Forms for Accident and Health Insurance — A Report to the Physician

A guide for physicians on the use of the new simplified claim forms for accident and health insurance policies issued by insurance companies has been published by the Health Insurance Council.

Entitled "Simplified Claim Forms for Accident and Health Insurance — A Report to the Physician," the manual describes the principles of the Council program to reduce paper work for doctors and at the same time provide insurance companies with the medical information they need to process and pay claims. The claim forms — called "Standardized Attending Physician's Statements" — were developed by the Council's Uniform Forms Committee in cooperation with the American Medical Association.

Ralph T. Heller, Chairman of the Uniform Forms Committee and Second Vice President of the Prudential Insurance Company of America, described the report as a supplement to a booklet distributed among insurance companies last year urging their adoption of the new forms.

Mr. Heller stressed the need for cooperation by all physicians in their acceptance and use of the simplified claim forms, noting that these forms have been approved by the American Medical Association's Council on Medical Service upon the recommendation of its Committee on Prepayment Medical and Hospital Service. In addition, he emphasized that the Uniform Forms Committee is "continuing to study ways and means to further implement the program."

"Whenever modification of the present forms becomes desirable as a result of expanding health insurance coverage," added the Council spokesman, "such changes will be made in a manner compatible with the needs of the public, the medical profession and the insurance companies."

Replacing a great variety of claim forms from hundreds of companies, the Health Insurance Council forms consist of two basic attending physician's statements — one for group accident and health insurance, and the other for individual and family health policies. They are to be used solely in connection with accident and health insurance claims.

The forms comprise a standard set of questions, in a standard sequence, which are the minimum required to meet the provisions of most insurance companies. Some questions and phrases are optional and in many instances will not be required or used by companies. The questions used, however, will be sufficient to provide the information needed to process routine claims of all types, including initial and continuing proof of disability as well as surgical and medical claims information.

In addition, there are four abbreviated forms to be used for surgical and continuing disability statements for group and individual insurance respectively.

A key feature of the simplified claim forms program is the new identifying symbol developed by the Council for use on the claim forms. Certifying that the standard wording and sequence of questions have been utilized, the symbol facilitates doctor recognition of the form.

Additional copies of "Simplified Claim Forms for Accident and Health Insurance — a Report to the Physician" may be obtained upon request from the Health Insurance Council, 488 Madison Avenue, New York 22, New York.

The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D. Togus
Second District, WALDO A. CLAPP, M.D. Lewiston
Third District, RALPH P. EARLE, M.D. Vinalhaven
Fourth District, JAMES E. POULIN, M.D. Waterville
Fifth District, MARCUS A. TORREY, M.D. Ellsworth
Sixth District, RICHARD C. WADSWORTH, M.D. Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville
PEARL R. FISHER, R.N., Waterville

Across The Desk

Medical Determinations For Disability Freeze Now 500,000

The Social Security Administration's Medical Advisory Committee learned this week that slightly more than half of the initial determinations thus far considered under the three-year-old disability freeze have been allowed. At a meeting of the committee in Baltimore, it was shown that 1,081,600 applying for the freeze had gone through their medical evaluation since the law was passed. Of these, 572,800 or 53 per cent have been allowed. The agency gave no figures on total applications received.

Secretary Flemming of HEW told the committee that it had successfully worked out a sound method of determining disability "in a way which does not interfere with doctor-patient relationships." Under the system worked out for determining whether the disability requirement is met, a person who applies for disability insurance benefits or seeks to have his social security record frozen is first asked to get a statement from his physician. The latter is asked to report clinical findings — the results of medical tests and lab exams. The decision whether a person is disabled is made by a team of trained people, including a doctor, in a state agency.

Substantial Drop In Ten Diseases Reported By Public Health Service

Final figures of the National Office of Vital Statistics show substantial reductions in the incidence of ten diseases during 1957 compared with the previous year. They are brucellosis, diphtheria, encephalitis, hepatitis, malaria, poliomyelitis, psittacosis, trichinosis, tuberculosis and typhoid fever. Polio cases in 1957 amounted to 5,485, the lowest since 1942 when the total was 4,167. Of the 1957 total, 2,499 were paralytic.

NOVS said there was little change in reported incidence of dysentery, rheumatic fever, tetanus, meningococcal infections and venereal diseases. A rise in the number of syphilis cases was noted, from 131,763 in 1956 to 136,039 in 1957. Previously there had been a steady decline.

Forand Proposal Now Third On Labor's Legislative Goals

The AFL-CIO has given high priority to passage in the next Congress of the Forand proposal for hospitalization and surgical services of OASI beneficiaries. It is now third on a ten-point legislative program. Ahead of it, according to President George Meany, are only aid to depressed areas and federal aid to general education. On the Forand bill, Mr. Meany states, "It is still either impossible or too costly for our senior citizens to obtain such insurance through non-profit or commercial channels."

Legislative goals were outlined at a press conference shortly after the Congressional elections. Mr. Meany observed in a statement, "The American people on November 4 very emphatically indicated that they do not agree with those political leaders who have little faith in the dynamic character of our national economy. By

an overwhelming vote, they elected to Congress new Senators and Representatives who want to forge ahead and properly utilize our nation's human and natural resources to build a better world for all. By the same vote, they retired many members of Congress who have followed a standstill policy."

The labor chief added that this was not the time to "raise false issues," but "the time to give the American people the program for which they have voted. . . ."

Medicare Costs Mounting, Now Running At $9.2 Million Monthly

The medicare program is increasing in cost, according to Brig. Gen. Floyd L. Wergeland, head of the Office for Dependents Medical Care. For October, costs rose to $9.2 million, the highest since the operation began nearly two years ago. It was also the first month of restricted benefits, although the October total includes payments for services rendered some time back. If the present rate of costs continues, it would appear obvious that the $72 million voted by the last Congress for the civilian phase of the program will be used some months before the end of the fiscal year. For instance, were the October rate to continue for the rest of the fiscal year, the total would amount to around $106 million. The Defense Department could ask the next Congress for a deficiency appropriation.

Gen. Wergeland, commenting on the limitations that went into effect in October, said, "Obviously it will take some time before the kinks are ironed out of the revised procedures and program. We hope that what we have done will achieve the ends we had in mind, but we do not know how it will work out in practice. Only time will tell."

Bold U. S. Steps Loom To Spur Doctor Output

The blunt speech delivered before the American College of Surgeons by Surgeon General Leroy E. Burney is a portent of aggressive action to be taken by Washington toward training of more doctors of medicine in the United States. Giving the annual Martin Memorial Lecture in Chicago, the PHS chief appealed to private enterprise to do all it can to arrest our numerical decline as a world medical power and made it clear that the government won't stand idly by if the slide is unchecked.

Some believed Dr. Burney referred to AMA when he said "as a profession, we have been on the defensive on issues tangential to the art and science of medicine (and) have adopted negative attitudes in solving social problems when a positive attitude and leadership were needed."

Dr. Burney's bold address had the approval of Secretary of HEW Arthur S. Flemming, whose first weeks in the Eisenhower Cabinet have been marked by his emphasis upon public health and medical issues. It seems evident that the Burney speech is part of a buildup for a 1959 campaign by the Administration to get Congress to enact legislation authorizing operational as well as construction subsidies for medical schools.

More Doctors Want In

The Medical Society of the District of Columbia disclosed the results of a mail referendum on social security coverage. To all of the Society's approximately 1,600 active members was sent a one-line questionnaire, "Do you favor physicians participation in the Social Security Program?" Spaces were indicated for "Yes" or "No" check marks. Results: 550 "Yes" and 192 "No." Note: Total response undoubtedly would have been greater if poll had not been conducted in September before the close of the vacation season.

"There seems to be," said the Society's statement last week, announcing outcome of the poll, "a growing sentiment throughout the country for a reversal of policy."

Does AMA still say, "Papa knows best?"

Infant Death Rate Shows Increase First Time In 22 Years

The infant death rate in the United States is on the increase. The increase is slight, but it is the first time in 22 years that the percentage of deaths has not shown a decline. The trend, based on Children's Bureau statistics, was disclosed by Under Secretary Bertha S. Adkins of the Department of Health, Education and Welfare at a convocation of the Children's Aid and Adoption Society of Orange, New Jersey. Her text was released in Washington.

Preliminary estimates for 1957, Miss Adkins said, show an increase in infant mortality rate from the 26 per 1,000 live births in 1956 to 26.3. Deaths within the first month also showed a slight increase, from 18.9 per 1,000 in 1956 to 19 in 1957. For the first eight months of 1958, the rate continued its rise, to 19.5.

"This break in our progress in conserving infant life," she said, "means an estimated loss of more than 4,000 babies in 1957 and the first eight months of this year."

The downtrend of mortality was reversed in spite of a doubling since 1945 of the percentage of infants served by well-child conferences. In explanation of the situation Miss Adkins said:

"Because of the large number of families that seek such services for their babies, it sometimes has been necessary to sacrifice quality of care somewhat. Many health departments are distressed that overcrowding of clinics makes it impossible for physicians to give adequate time and attention to mothers and children who need medical guidance and care.

"These service problems are now generally more acute in the cities, because of the changing nature of city populations. In recognition of this, our social security law was amended at the last Congressional session to

make grants-in-aid funds more generally available to city children. Previously, these grants had been predominately available only to children in rural areas. Another development — the earlier discharge of mothers and infants from large municipal hospitals — emphasizes the need for more comprehensive supplementary community services, including services to mothers and their infants in their own homes."

National Health Survey Makes First Major Report On U. S. Illness

Physician Visits

There were an estimated 890 million physician visits, about two-thirds of them in offices. Visits were higher in the October-December period than any other quarter. Females used physician services at a greater rate than males (6.0 visits per person for women compared with 4.5 visits per men.) About 75 per cent of visits involved diagnosis and treatment as against services of a preventive nature such as checkups and immunization. Note: the survey estimated visits averaged about 4,000 per doctor, but this was based on the assumption there are roughly 220,000 practicing physicians in the U. S.

AFL-CIO Urges Nationwide Blood Bank Plan

The AFL-CIO is urging that a nationwide, uniform, voluntary blood bank system be set up under auspices of the Joint Blood Council. The proposed system would include uniform mandatory licensing standards and a national clearing house or exchange for blood and blood credits. The Joint Blood Council is made up of the American Medical Association, the American Hospital Association, the American Society of Clinical Pathologists, the American National Red Cross and the American Association of Blood Banks.

Doctors, Medical Societies Urged To Aid State Motor Officials

The physician in charge of special health services for the Public Health Service wants state medical societies and private physicians to lend a hand to motor vehicle directors in finding out why 40,000 Americans are killed by autos each year. Dr. A. L. Chapman told the annual meeting of the Association of State and Territorial Health Officers that while medical scientists have been successfully confining malaria and polio, relatively little has been spent in determining the basic reasons for the high annual highway toll.

"To me this is a challenge which has been inexcusably evaded by the rank and file of the public health and medical professions for several decades. The question now is what are we going to do about it?"

Dr. Chapman suggested: (1) Responsibility for advising state motor vehicle administrators on criteria that can be used to limit driving privileges of those suffering from diseases making them high-risk drivers is clearly a medical responsibility. The state health department should bring the medical society and private doctors into the picture.

(2) There is a vast field of study and investigation by medical and paramedical personnel, such as effect of emotions on driving ability, personality pattern of chronic traffic violators and motivations of those who drive in an irresponsible fashion.

(3) Educational programs to get over to the driving public the effects of drugs such as antihistamines on driving ability; the effects of alcohol on reflexes and judgment and the effect of fatigue on reaction time.

Morse Hearings Certain To Hit Sensitive Nerves

One of the earliest trouble-shooting targets in 1959 will be hearings to be conducted by Senator Wayne Morse (D., Ore.). While nominally it will be a resumption of hearings opened last August into group hospitalization premiums in the District of Columbia, data are being gathered on a national scale ostensibly for purposes of comparison.

Note: Senator Morse is a high ranking member of the Senate Labor and Public Welfare Committee, which would have jurisdiction over any investigation into Blue Cross, Blue Shield or other insurance plans.

From present signs, the Morse committee hearings will be started within 60 days after convening of Congress on January 7.

That Hammer Again

Missile testing has its occupational health problems but "at Cape Canaveral our greatest cause of injury is still the tool dropped from the top of a gantry," said Dr. Laurent P. Laroche, an industrial physician.

Medicare's Tight Money Hampers Cancer Crusade

One of the side effects of new retrenchment policy in Medicare program is the mockery it is making of governmental and private drives for detection and treatment of uterine cancer and precancerous lesions. OB and GYN cases presently are accounting for nearly three-fourths of program expenditures, yet nothing may be spent legally for medical services to a patient with a suspected — or even clearly diagnosed — case of uterine malignancy, unless her condition is acute or emergency surgery is indicated.

Without Prescription

Targets of especially stiff penalties — a pharmacist in Georgia was put on two years probation and his employer fined $1,000 on conviction of selling an amphetamine drug without a doctor's prescription.

DEAN H. FISHER, M.D.
COMMISSIONER

State of Maine

Department of Health and Welfare

Prenatal Serologic Examinations Reported On Certificates Of Live Births Maine, 1956

EDSON K. LABRACK*

The 89th State Legislature, in 1939, passed into effect a law concerning prenatal examinations for syphilis and Rh factor. The law reads in part as follows: "Every physician attending a woman in the state by reason of her being pregnant during gestation shall in the case of every woman so attended take or cause to be taken, with her consent, a sample of blood of such woman, and submit such sample for a standard serological test for syphilis and Rh factor . . ."

On January 1, 1956, a newly revised certificate of live birth was placed in use in Maine. This new certificate incorporated several important changes including a check box type of medical supplement and an item asking for information on the prenatal serologic examination of the mother.

Data concerned with prenatal serologic examinations were coded and punched on the live birth statistical cards which are prepared for each live birth so that it was possible to ascertain the extent of testing for syphilis and Rh factor during pregnancies which produced a live born infant in 1956.

Residents of Maine gave birth to 22,402 live born infants in 1956. Information concerning serologic examinations appeared on 18,993, or 84.8 per cent of the certificates. The item was not completed on 2,598 or 11.6 per cent of the certificates, and 811, or 3.6 per cent of resident live births occurred outside of Maine. These data are not included on non-resident transcripts which are exchanged by states for the preparing of resident statistics.

Status of Serologic Testing Completeness

Table 1 shows the status of completeness of serologic examinations for syphilis and Rh factor during pregnancies which produced a resident live birth in 1956.

TABLE I

Status of Serologic Examination During Pregnancy
Resident Live Births: Maine, 1956

Status of serologic examinations	*Births*	*Per cent*
Total	22,402	—
Examination for Syphilis	15,580	69.5
Examination for Rh Factor	16,513	73.7
Not tested	1,595	7.1
Not reported on certificate	3,409	15.2

In 14,695, or 65.6 per cent of the live births the mother received a serologic examination for syphilis and Rh factor; in 1,818, or 8.1 per cent, the mother received a serologic examination for Rh factor only; and in 885, or 4.0 per cent the mother received a serologic examination for syphilis only.

Results of Serologic Examinations

Data concerning the results of serologic examinations does not appear on the certificate. However, data concerning syphilis as a complication of pregnancy does appear on the certificate. Analysis of these data shows 19 live births in 1956 in which syphilis was mentioned as a complicating condition.

With one exception all of these cases had been reported to the Department of Health and Welfare before the time of birth. Three of these cases of syphilis were apparently discovered during this pregnancy. Two others were apparently reported during previous pregnancies.

There were no infant deaths or fetal deaths attributed

*Director, Division of Vital Statistics.

to congenital syphilis in 1956 and there were no cases of congenital syphilis reported in infants during that year.

Data concerning the results of serologic tests for Rh factor are available on the certificates. Analysis of these data show that Rh negative blood was found once in every 8.1 pregnant females who gave birth to a live born infant in 1956.

Conclusion

The incompleteness of data on serologic examinations as reported on certificates of live births in many areas of the State make it difficult to make an accurate assessment of the true extent of prenatal serologic testing for syphilis in Maine. It is probable, however, that 70-80 per cent of pregnant women in Maine receive prenatal serologic examinations for syphilis and 75-85 per cent receive serologic testing for Rh factor.

Prenatal examination for syphilis has apparently been successful in reducing congenital syphilis, and in almost eliminating infant deaths, and fetal deaths attributed to congenital syphilis. There have been only two infant deaths attributed to syphilis since 1950, and reported cases of congenital syphilis in infants are rare indeed.

Aseptic Meningitis And Paralytic Poliomyelitis

Margaret H. Oakes*

Since early January 1958, when a small family outbreak of aseptic meningitis due to ECHO 9 virus was recorded, the Division of Communicable Disease Control, of the Department of Health and Welfare, has been focusing attention on an expanded Poliomyelitis Surveillance Program, covering other enteroviruses besides poliomyelitis.

Several articles on the subject have appeared in the Weekly Communicable Disease Report, and physicians have been asked to help by obtaining specimens of feces and paired sera from cases of aseptic meningitis, as well as from cases of frank paralytic poliomyelitis, should such occur. Laboratory work is being done at the Virus Diagnostic Unit, Communicable Disease Center, U. S. Public Health Service, in Chamblee, Georgia.

Twenty-one cases, including two of paralytic poliomyelitis, have been under surveillance since late July. Waiting for the second of the paired sera necessitates some time lag, and four of the 21 (including the two paralytic cases) occurred so recently that the specimens have not yet been forwarded to Georgia.

Some delay is also to be expected in obtaining reports following virological studies which include virus isolation, so that up to now returns have been received for only three of the 17 cases whose specimens have been sent to Georgia, and the return for a fourth case is expected shortly.

One of the three reports which have been received was entirely negative — a not unforeseen result in the light of the symptoms — but the two other reports showed that from these cases ECHO 9 virus had been isolated. An agent isolated from the stool of the fourth case has taken longer to identify.

The two ECHO 9 cases and this fourth one, soon to be reported, were found by the City Health Officer of Bangor, in cooperation with the Eastern Maine General Hospital. They were part of a very small neighborhood outbreak of aseptic meningitis, in which one or two cases showed a rash as well as meningeal symptoms. Since the ECHO 9 cases of last winter were diagnosed by increase in antibody titer in paired sera, these two Bangor isolations represent the first ECHO virus isolations under our Surveillance Program. However, as long ago as 1954, the studies which accompanied the Test Area Vaccine Program showed an isolation of what was then called merely an "Orphan" virus, from a Portland child.

In former years, most of these cases which are now termed "aseptic meningitis" would probably have been regarded as "non-paralytic poliomyelitis" and would have been so reported. The two cases which have been reported as paralytic poliomyelitis this year would accordingly represent two paralytic cases against nearly ten times as many which would once have been called non-paralytic — or about 10% paralytic cases under our old nomenclature. One of the two was a young woman who has a young baby and is again pregnant. She had never received polio vaccine. Neither had the other case — a four year old child.

A tabulation of all inoculations for which poliomyelitis vaccine has been issued through or by the Department of Health and Welfare has recently been made. It shows that, unless many more inoculations have been given privately and under local sponsorship than is believed to be the case, there are still many Maine children under five years of age who lack a third inoculation, a large proportion among those fifteen to nineteen years of age who have had no vaccine at all, and a population of young adults which is almost entirely unprotected against paralytic poliomyelitis.

*Assistant to the Director, Division of Communicable Disease Control.

COUNTY SOCIETIES

ANDROSCOGGIN

President, Paul J. LaFlamme, M.D., Lewiston
Secretary, Donald L. Anderson, M.D., Lewiston

AROOSTOOK

President, Melvin R. Aungst, M.D., Fort Kent
Secretary, Clyde I. Swett, M.D., Island Falls

CUMBERLAND

President, Ralph Heifetz, M.D., Portland
Secretary, Stanley E. Herrick, Jr., M.D., Portland

FRANKLIN

President, Wallace H. Duffy, M.D., Farmington
Secretary, Paul E. Floyd, M.D., Farmington

HANCOCK

President, William C. Luther, M.D., West Sullivan
Secretary, Russell G. Williamson, M.D., Blue Hill

KENNEBEC

President, Howard H. Milliken, M.D., Hallowell
Secretary, Arch H. Morrell, M.D., Augusta

KNOX

President, David V. Mann, M.D., Camden
Secretary, Parker Heath, Jr., M.D., Rockland

LINCOLN-SAGADAHOC

President, Stanley R. Lenfest, M.D., Waldoboro
Secretary, George W. Bostwick, M.D., Newcastle

OXFORD

President, Niles L. Perkins, Jr., M.D., Rumford
Secretary, George W. Miller, M.D., Norway

PENOBSCOT

President, J. Robert Feeley, M.D., Bangor
Secretary, Warren G. Strout, M.D., Bangor
Treasurer, Dexter J. Clough, 2nd, M.D., Bangor

PISCATAQUIS

President, Charles H. Lightbody, M.D., Guilford
Secretary, James H. Johnson, Jr., M.D., Milo

SOMERSET

President, Richard P. Laney, M.D., Skowhegan
Secretary, Harland G. Turner, M.D., Norridgewock

WALDO

President, Norman E. Cobb, M.D. Belfast
Secretary, George L. Temple, M.D., Belfast

WASHINGTON

President, Harold G. Sears, M.D., Woodland
Secretary, Karl V. Larson, M.D., East Machias

YORK

President, William B. O'Sullivan, M.D., Saco
Secretary, C. W. Kinghorn, M.D., Kittery

County Society Notes

OXFORD

October 8, 1958

The annual meeting of the Oxford County Medical Society was held at the Bethel Inn. The meeting was well attended and a number of Franklin County Medical Society members and their wives were present as guests.

The following officers were elected:

President, Niles L. Perkins, Jr., M.D., Rumford
Vice-President, Ake Akerberg, M.D., South Paris
Secretary-Treasurer, George W. Miller, M.D., Norway
Delegates to Maine Medical Association: Walter G. Dixon, M.D. (1 year); and Harry L. Harper, M.D. (2 years).
Alternates: Linwood M. Rowe, M.D. (1 year); and Alfred Oestrich, M.D. (2 years).
Councilors: Henry M. Howard, M.D. (1 year); Thomas P. Nangle, M.D. (2 years); and Roswell E. Hubbard, M.D. (3 years).

The business meeting was followed by a social hour and dinner. The speaker for the scientific session was Daniel A. Rock, M.D., of Lewiston, Maine. His subject was "Backaches and Discs."

H. Richard Bean, M.D., of Norway, Maine was elected to membership in the Society.

HARRY L. HARPER, M.D.
Secretary

PENOBSCOT

October 21, 1958

A meeting of the Penobscot County Medical Society was held on October 21 at the Penobscot Valley Country Club. In the absence of the President, J. Robert Feeley, M.D., the business meeting was called to order by John E. Whitworth, M.D., President-elect. The minutes of the last meeting were read and approved. The question of the Emergency Call was again raised from the floor and a motion was made that another Emergency Call Committee be appointed by the President and the Executive Council.

Edward B. Babcock, M.D., announced that Diabetes Week will be held again in November and the Society unanimously voted to conduct Clinitests in the office during that week without cost to the patient.

The secretary reported on communications concerning the recent change in the Medicare Act and a communication from the office of the Attorneys of the Maine Medical Association in regard to a newspaper report of a suit against A. W. Fellows, M.D.

Following the business meeting, Charles D. McEvoy, Jr., M.D., introduced the speaker of the evening, David D. Thompson, M.D., of Cornell University Medical College, who presented a paper on the management of acute and chronic renal insufficiency.

There were 63 members and guests present.

November 18, 1958

The November meeting of the Penobscot County Medical Society was held at the Tarratine Club in Bangor, with the President, J. Robert Feeley, M.D., presiding. Dr. Feeley introduced Ralph C. Stuart, M.D., of Guilford, the newly appointed Councilor for the Maine Medical Association from



IN DEBILITATING DISEASE

Patients receiving

NILEVAR®

Eat more...
Feel better...
Recover faster

Compared to control patients, those receiving Nilevar (brand of norethandrolone) have repeatedly demonstrated more rapid and more complete recovery from serious acute illness and increased comfort and well-being in chronic illness.

A multitude of case histories are now adding individual clinical color to the earlier controlled investigations which defined the actions of Nilevar as an effective aid in reversing negative nitrogen balance and in building protein tissue.

In typical case reports such gratifying comments as these appear:

Underweight —"Appetite considerably increased within one week. Sense of well-being and vigor increased along with increased appetite."

Prematurity (Birth weight: 2 pounds, 4 ounces) — "Gradual improvement in appetite and capacity for formula. . . . Excellent progress and weight gain for a very immature infant."

Carcinoma of the Uterus —"Within four days appetite became excellent, took full diet. . . . More ambition while on Nilevar. Enjoys life. Takes part in church and other social affairs."

Third Degree Burn —". . . soon began eating all that was offered. . . . Began to show signs of hope for recovery. . . . Perhaps one of the greatest changes was in the appearance of his wounds which were so very much improved."

The dosage for adults is 20 to 30 mg. daily in single courses no longer than three months. For children the daily dosage is 0.5 mg. per kilogram of body weight, in single courses no longer than three months.

Nilevar is supplied in tablets of 10 mg. and ampuls of 25 mg. (1 cc.).

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

SEARLE

the Sixth District. The secretary's reports of the general meeting in October and the Executive Council meeting in November were read and approved. Allan Woodcock, M.D., presented resolutions on the death of John B. Thompson, M.D. The secretary read a letter of transferral of Francis J. Kadi, M.D., from the Oxford County Medical Society to the Penobscot County Medical Society. Albert L. Babcock, M. D., reported on the Emergency Call Committee preparations and stated that the roster is being prepared with a total of 19 doctors participating.

Dr. Feeley appointed the following members to serve as a nominating committee to present a slate of officers for the ensuing year; Drs. Asa C. Adams, Carl E. Blaisdell and John J. Pearson.

Hadley Parrot, M.D., of the Program Committee, introduced the speaker of the evening, Dr. Clarence Cook Little, whose subject was "Some Aspects of Smoking and Lung Cancer Incidence."

WARREN G. STROUT, M.D.
Secretary

WASHINGTON

November 14, 1958

The annual meeting of the Washington County Medical Society was held on Friday, November 14 in the Congregational Vestry at East Machias, Maine. Twenty-five members and guests enjoyed an excellent turkey dinner served by members of the Ladies' Society.

Robert G. MacBride, M.D., of Lubec, President of the society, introduced Robert O. Kellogg, M.D., of Bangor, who spoke on "Orinase."

Eugene E. O'Donnell, M.D., of Portland, President of the Maine Medical Association, was introduced by Rowland French, M.D., of Eastport, Dr. O'Donnell spoke on the need of a hospital for the Machias area. He illustrated by graphs the percentage of people over 70 in the Mercy Hospital during 1957, and showed that they formed a surprisingly small percentage of the total number. He also illustrated the fatality rate and percentage of medical and surgical cases.

The following officers were elected for the ensuing year:
President, Harold G. Sears, M.D., Woodland
Vice-President, Rowland French, M.D., Eastport
Secretary-Treasurer, Karl V. Larson, M.D., East Machias
Delegate to Maine Medical Association, James C. Bates, M.D., Eastport. Alternate, Perley J. Mundie, M.D., Calais.
Health Insurance Committee, Karl V. Larson, M.D.

KARL V. LARSON, M.D.
Secretary

AROOSTOOK

November 21, 1958

The Fall Clinical Meeting of the Aroostook County Medical Society was held at the Hotel Caribou, Caribou, Maine on November 21. There were fifty-two members and guests present. Following a social hour and dinner, the meeting was called to order by the President, John B. Madigan, M.D., of Houlton.

Guest speakers at the Clinical Session were, Daniel J. McSweeney, M.D., Professor of Obstetrics, Tufts University School of Medicine, and George W. Mitchell, Jr., M.D., Professor of Obstetrics and Gynecology, Tufts University School of Medicine.

The following physicians were elected to membership: Emile Frigault, M.D., Eagle Lake; Edward P. Williams, M.D., Houlton, and R. Paul Johnson, M.D., Fort Kent.

Armand Albert, M.D., of Van Buren, spoke relative to the Maine Cancer Society.

Harry M. Helfrich, Jr., M.D., of Presque Isle, President, Aroostook AntiTuberculosis Society, spoke concerning the Northern Maine Sanatorium situation as explained by Dean Fisher, M.D., Commissioner, Maine Department of Health and Welfare. Dr. Fisher wishes to discontinue the present sanatorium and is considering the following alternatives: 1. That all TB cases be sent to the Fairfield Sanatorium. 2. Relocate TB facilities in the county in conjunction with one of the general hospitals. Dr. Helfrich referred the problem to the Aroostook County Society for its recommendations.

It was voted that a Committee on Sanatorium Recommendations be appointed by the President and that this committee be composed of a member from Presque Isle, Caribou, Houlton, Fort Fairfield, Fort Kent and from two other towns, to meet with the legislative delegation of Aroostook County for fact finding, and that this committee report back to the ACMS one month from now.

It was voted that the ACMS herewith endorse the plan proposed by the State for providing TB facilities with existing hospital facilities and that these TB facilities be placed in Aroostook County.

It was voted that the ACMS recommend to the State that the Northern Maine Sanatorium not be closed unless another TB facility be provided in Aroostook County.

The President appointed the following Committee on Sanatorium Recommendations: H. Draper Warren, M.D., Caribou, Chairman; Herrick C. Kimball, M.D., Fort Fairfield; Eugene G. Gormley, M.D., Houlton; Gerald H. Donahue, M.D., Presque Isle; Melvin R. Aungst, M.D., Fort Kent; Armand Albert, M.D., Van Buren, and Joseph H. Herson, M.D., Patten.

Ralph C. Stuart, M.D., of Guilford, M.M.A. Councilor for the Sixth District, spoke on the advisability of settling complaints made against doctors on a local county level rather than presenting such complaints at the state level.

A notice was read concerning the Fall Clinical Session of the M.M.A. to be held in Portland, December 13.

The next meeting of the Aroostook County Society will be held at the Northeastland Hotel in Presque Isle on Wednesday, December 17. This is a special meeting to consider the report of the Committee on Sanatorium Recommendations.

CLYDE I. SWETT, M.D.
Secretary

New Members

ANDROSCOGGIN

(Elected to membership 9/24/58)
Philip L. Archambault, M.D., 346 Main St., Lewiston

AROOSTOOK

(Elected to membership 11/21/58)
Emile Frigault, M.D., Eagle Lake
R. Paul Johnson, M.D., Fort Kent
Edward P. Williams, M.D., Houlton

OXFORD

(Elected to membership 10/8/58)
H. Richard Bean, M.D., Norway

Continued on page 482

Necrology



EUGENE H. DRAKE, M.D.
1892-1958

Eugene H. Drake, M.D., 66, of Portland, well-known specialist in internal medicine, died October 4, 1958, in the Maine Medical Center, following a brief illness.

Dr. Drake's honors were numerous during his nearly 40 years of practice. He performed an outstanding role in furthering medical aid in its broadest sense. He had served as President of the Maine Medical Association, and the Maine Heart Association, and as a member of the board of directors of the Maine Heart Association.

He was instrumental in establishing the Blue Shield program in Maine and became one of its directors. He served as President of the staff of the Maine General Hospital for four years and as chief of the medical staff.

Dr. Drake distinguished himself as a medical officer in the armed services, receiving the Bronze Star for meritorious service aboard the hospital ship USS Solace in the Pacific. As Captain Drake he was chief consulting cardiologist for the Pacific Fleet. He retired from the Navy a rear admiral. He also served as commanding officer of Naval Reserve Medical Company 1-3 as senior reserve medical officer in the state.

Dr. Drake was born in Pittsfield, Maine, August 7, 1892, the son of Lelia Edith and Orville Burn Drake. He graduated from Maine Central Institute in 1907, from Bates College in 1913 and from Bowdoin Medical School in 1919. He began practicing medicine in Portland in 1919 and became a member of the staff of Maine General Hospital in 1923.

In 1925 he went to Harvard Medical School to study cardiology. When he returned to Portland he became a leader in the field of cardiology, establishing the first heart clinic for Maine. In 1931 he did post-graduate work in internal medicine in London and Vienna.

He was a member of the American Medical Association, the Maine Medical Association and the Cumberland County Medical Society. He was a member of the American College of Physicians and a governor for Maine for the College.

At one time Dr. Drake was city physician for Portland and in 1951 he received the Portland Kiwanis Club Plaque for distinguished service to the city. He was formerly a boating enthusiast and a member of the Portland Yacht Club. In recent years his only diversions were his farm and his cattle.

Dr. Drake was a hard worker for the cause of medical proficiency in its service to humanity and with his death this cause and his fellow physicians know a great loss.

He is survived by his widow, Mrs. Effie Potter Drake and a sister, Mrs. Mary Maloney of Newton, Massachusetts.

Deceased

AROOSTOOK

Leslie H. Huggard, M.D., 29 Huggard Ave., Limestone, November 22, 1958

KENNEBEC

Napoleon Bisson, M.D., 86 Silver St., Waterville, November 5, 1958

Thomas C. McCoy, M.D., 17 College Ave., Waterville, November 9, 1958

YORK

James H. Macdonald, M.D., 103 Main St., Kennebunk, December 2, 1958

Announcements

Department of Health and Welfare Division of Maternal and Child Health, Including Services for Crippled Children

CLINIC SCHEDULE — 1959

Orthopedic Clinics

Portland — Maine Medical Center
9:00 a.m.: Jan. 12, Feb. 9, Mar. 9.
Lewiston — Central Maine General Hospital
9:00 a.m.: Jan. 16, Feb. 20, Mar. 20.
Rumford — Community Hospital
1:30 p.m.: Mar. 18.
Waterville — Thayer Hospital
1:30 p.m.: Feb. 26.
Rockland — Knox County Hospital
1:30 p.m.: Feb. 19.
Machias — Washington County Normal School
1:30 p.m.: Jan. 14, Mar. 25.
Presque Isle — Northern Maine Sanatorium
9:00 a.m. and 12:30 p.m.: Jan. 13, Mar. 11.
Houlton — Aroostook General Hospital
9:00 a.m.: Mar. 10.
Fort Kent — Peoples Benevolent Hospital
10:00 a.m.: Jan. 14.
Bangor — Eastern Maine General Hospital
1:00 p.m.: Jan. 2, Mar. 26,
(Several will be two-session clinics.)

Cardiac Clinics

Portland — Maine Medical Center
9:00 a.m.: Every Friday (Holidays excepted).
Bangor — Eastern Maine General Hospital
9:00 a.m.: Jan. 9-23, Feb. 13-27, Mar. 13-27.

Pediatric Clinics

Bangor — Eastern Maine General Hospital
1:30 p.m.: Jan. 23, Feb. 27, Mar. 27.
Fort Kent — Peoples Benevolent Hospital
10:00 a.m.: Mar. 25.
Presque Isle — Northern Maine Sanatorium
1:30 p.m.: Jan. 21.
Waterville — Thayer Hospital
1:30 p.m.: Jan. 6, Feb. 3, Mar. 3.

Clinics For Mentally Retarded Pre-school Children

Waterville — Thayer Hospital
9:00 a.m.: Jan. 7-21, Feb. 4-18, Mar. 4-18.

Adolescent Clinics

Portland — Maine Medical Center
1:00 p.m.: Jan. 28, Feb. 25, Mar. 25.

American Board of Obstetrics and Gynecology

The next scheduled examinations (Part II), oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from May 8 through 19, 1959. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I examinations will be notified of their eligibility for the Part II examinations as soon as possible.

Current Bulletins of the American Board of Obstetrics and Gynecology, outlining the requirements for application, may be obtained by writing to the Secretary: Robert L. Faulkner, M.D., 2105 Adelbert Road, Cleveland 6, Ohio.

LONG-TERM ANTICOAGULATION THERAPY — *Continued from Page 466*

Rates after Acute Myocardial Infarction with Long-Term Anticoagulant Therapy. Circ. 14: 254, 1956.
4. Nichol, E. S. et al.: Long-Term Anticoagulant Therapy in Coronary Atherosclerosis. Am. Ht. J. 55: 142, 1958.
5. Olwin, J. H., and Koppel, J. L.: Practical Aspects of Long-Term Anticoagulation Therapy. Arch. Int. Med. 100: 842, 1957.
6. Ware, A. G., and Stragnell, R.: Anticoagulant Therapy: Elimination of Some Commonly Occurring Pitfalls. Ann. Int. Med. 46: 450, 1957.
7. Verstraete, M., Clark, P. A., and Wright, I. S.: Use of Different Tissue Thromboplastins in the Control of Anticoagulant Therapy. Circ. 16: 213, 1957.
8. Sise, H. S., et al,: Relation of Hemorrhage and Thrombosis to Prothrombin During Treatment with Coumarin-Type Anticoagulants. New Eng. J. Med. 259: 266, 1958.
9. Katz, L. N., et al.: Symposium: Unsettled Questions in the Management of Cardiovascular Disease. Circ. 18: 430, 1958.

1 Fern Street, Bangor

INDEX

VOLUME FORTY-NINE

THE JOURNAL

of the

MAINE MEDICAL ASSOCIATION

DANIEL F. HANLEY, M.D., Brunswick, Editor

EDITORIAL BOARD

Maine Medical Association

First District, DONALD H. DANIELS, M.D. . . . . Togus
Second District, WALDO A. CLAPP, M.D. . . . . Lewiston
Third District, RALPH P. EARLE, M.D. . . . . Vinalhaven
Fourth District, JAMES E. POULIN, M.D. . . . . Waterville
Fifth District, MARCUS A. TORREY, M.D. . . . . Ellsworth
Sixth District, RICHARD C. WADSWORTH, M.D. . . . . Bangor

Maine Hospital Association

FREDERICK T. HILL, M.D., Waterville PEARL R. FISHER, R.N., Waterville

Officers of the Maine Medical Association

1958-1959

President, EUGENE E. O'DONNELL, M.D., Portland
President-elect, ALLAN WOODCOCK, M.D., Bangor

Councilors	*District*	*Term Expires*
CARL E. RICHARDS, M.D., Sanford	First District; Cumberland, York	1960
JAMES A. MACDOUGALL, M.D., Rumford	Second District; Androscoggin, Franklin, Oxford	1960
ROBERT L. ALLEN, M.D., Rockland	Third District; Knox, Lincoln-Sagadahoc	1959
WILSON H. MCWETHY, M.D., Augusta	Fourth District; Kennebec, Somerset, Waldo	1959
ROBERT G. MACBRIDE, M.D., Lubec	Fifth District; Hancock, Washington	1961
RALPH C. STUART, M.D., Guilford	Sixth District; Aroostook, Penobscot, Piscataquis	1961
PHILIP P. THOMPSON, JR., M.D., Portland	*Delegate to the American Medical Association*	Jan. 1, 1961
FRANCIS A. WINCHENBACH, M.D., Bath	*Immediate Past President*	

(*Council Chairman* — WILSON H. MCWETHY, M.D.)

Executive Director, DANIEL F. HANLEY, M.D., Brunswick

Secretary-Treasurer, ESTHER M. KENNARD, Brunswick

CHAIRMEN OF STANDING COMMITTEES

Scientific
RICHARD H. DENNIS, M.D., Waterville

Medical Education and Hospitals
CHARLES F. BRANCH, M.D., Lewiston

Medical Advisory
THOMAS A. MARTIN, M.D., Portland

Public Relations
DONALD F. MARSHALL, M.D., Portland

Legislative
WILSON H. MCWETHY, M.D., Augusta

Rural Health
HOWARD H. MILLIKEN, M.D., Hallowell

Board of Ethics and Discipline
ALVIN A. MORRISON, M.D., Portland

Health Insurance
FRANCIS A. WINCHENBACH, M.D., Bath

Investment
ELTON R. BLAISDELL, M.D., Portland

Credentials
JOHN F. DOUGHERTY, M.D., Bath

INDEX

VOLUME FORTY-NINE

GUIDE

January	Number One	Pages 1- 36
February	Number Two	Pages 37- 80
March	Number Three	Pages 81-124
April	Number Four	Pages 125-170
May	Number Five	Pages 171-204
June	Number Six	Pages 205-246
July	Number Seven	Pages 247-292
August	Number Eight	Pages 293-326
September	Number Nine	Pages 327-360
October	Number Ten	Pages 361-398
November	Number Eleven	Pages 399-440
December	Number Twelve	Pages 441-488

Articles

Scientific

A

Agranulocytosis Resulting from Sandostene® (Zolov, Benjamin) 335
Anesthesia, Recent Advances in (Sawyer, Howard P., Jr.) 293
Angina Pectoris or Cardiac Neurosis? (Grant, Joseph L. and Chambers, William N.) 12
Anileridine Analgesia in Labor (Gross, Stanley J., Datoh, June and Maeck, John Van S.) 174
Antibiotic Combinations, Use and Misuse of (Weinstein, Louis) 365
Anticoagulation Therapy, Long-Term (Manter, Wilbur B.) 462
Aphasia Paralysis, Victory Over (Cameron, Hamilton) 299
Ataractic Therapy of Hypertensive Mentally Retarded Patients (Bowman, Peter W. and Blumberg, Eduard) 272

B

Benign Prostatic Hypertrophy, Palliative Treatment of, Value of Glycine-Alanine-Glutamic Acid Combination (Feinblatt, Henry M. and Gant, Julian C.) 99
Benign Stricture of Esophagus Simulating Carcinoma (Hornberger, H. Richard) 46
Bilateral Choanal Atresia, A Surgical Emergency in the Newborn (Morrow, Rufus C.) 135
Blue Cross-Blue Shield, The Blues (Stitham, Linus J.) 405

C

Cardiology, Preventive (Raab, W.) 6
Cardiovascular Effects of Ionizing Radiations, A Tribute to Arthur Ulderic Desjardins (Smith, Durwood J.) 205
Cataract Surgery, Wound Closure in (Hill, Howard F.) 44
Cavernous and Capillary Hemangiomata, Management of (Peterson, O. S., Jr.) 140
Caesarean Section, Changing Trends in (Southern, Edward M.) 327
Chlorothiazide, A Nonmercurial Diuretic Agent (Pfeiffer, Paul H.) 55
Cholecystectomy for Cholecystitis (Babcock, Albert L.) 444
Clinical Experience with the SGO-Transaminase Test in Myocardial Infarction (Chapin, M. A.) 263
Clinico-Pathological Exercise (Kellogg, Robert O. and Wadsworth, Richard C.) 467
Colitis, Chronic Ulcerative, A Case Report (McQuillan, Arthur Harold) 57

D

Dermatology for Undergraduates (Daly, John F.) 190
Drug Reactions (Fisher, Samson) 40
Duodenal Ulcer, Surgical Treatment of (Rheinlander, Harold F. and Fisher, John H., Jr.) 376

E

Electrocardiography and Spatial Vectorcardiography, Principles of (Richman, Justin L.) 380
Electrocardiography, Seasonal Variations in (Lepeschkin, E.) 8
Epiduro-arachnoidostomy, Experience with (Wallman, Lester J. and Donaghy, R. M. Peardon) 177
Esophageal Varices, Treatment of Bleeding (Callow, Allan D.) 361

F

Facial Injuries (Meloy, William Carey and House, Royce Eugene) 1
Family Care Unit, Description of (Lantman, John) 183
Farmer's Lung, A Case Report (Brown, Lloyd; Parrot, Hadley and Porter, Edward C.) 447
Flap Grafts (Van Duyn, John) 453
Fractured Hips, Five Year Inpatient Study of (Beegel, Paul M.) 86

H

Headache Problem, Practical Approach to (Poulin, James E.) 332
Health Insurance from the M.D. Point of View, Problems of (Aranson, Albert) 399
Health Insurance Story from the Insurance Industry's Point of View (Waters, Harold J.) 402
Hepatic Coma Induced by High Protein Therapy and by Diarrhea, Two Case Reports (Goldsmith, Carl M. and Chapin, M. A.) 81

I

Integration of the Fourth Year of College with the First Year of Medical School — Two Years' Experience (Wolf, George A., Jr.) 213
Is the Practice of Medicine Compatible with Clinical Research? (Surawicz, Borys) 216

M

Malignant Tumors of the Vulva (Crowley, Leonard V.) 171
Mental Health in Northern New England, One Approach to (Tyler, Edward A.) 297
Mentally Retarded, A Coordinated State Program for the (Bowman, Peter W.) 338
Mentally Retarded Child in Maine, Problem of the (Ervin, Edmund N.) 48
Methylphenidate Hydrochloride (Ritalin®), Experience with (Schiller, Irving W.) 384

N

Neurology Conference, Mary Fletcher Hospital, Burlington Vermont (Schumacher, George A.) 150

O

Ophthalmology, Common Questions in (Cunningham, John C.) 186
Orinase,® The Use of, in the Treatment of Diabetes (Kellogg, Robert O.) 441
Orinase® (Tolbutamide) in the Treatment of Diabetes Mellitus (Blaisdell, E. R.) 415
Osgood-Schlatter's Disease, Treatment of, Case Reports (Stinchfield, Allan J.) 96

P

Plantar Warts, Radiotherapy of (Miller, Clark F. and Carrier, John W.) 85
Practice Planning for Greater Income (Condit, George W.) 305

R

Renal Insufficiency, Chronic, Management of (Hays, Richard M.) 372
Retinal Separation in Young Adults (Dennis, Richard H.) 37
Retroperitoneal Gas in Urologic Diagnosis, Present Trend in the Use of (Meyer, Emanuel) 247
Rheumatic Pneumonia, Acute (Jackler, J. M.) 330
Roentgenological Diagnosis of Placenta Praevia (McCarty, W. C. and McManus, R. A.) 14

S

Subphrenic Abscess with Thoracic Complications, An Illustrative Case Report (Fishman, Louis) 93
Subtotal Gastrectomy for Peptic Ulcer: A Clinical and Pathological Study (Turner, F. P. and Spellman, F. A.) 252
Suicide Cases, Review of, with Reference to Appraisal of Their Risk and Prevention (Daniels, Donald H.) 258
Suicide in Vermont — 1957 Pattern (Woodruff, Richard S.) 143
Suppurative Arthritis Due to Hemophilus Influenzae (Gessner, Ira H.) 137

T

Tritanopic to a Blue Shield, A Visual Guide to Physicians (Thompson, Philip P., Jr.) 409

Tuberous Sclerosis: Report of a Case (Mavor, Huntington and Schumacher, George A.) 179

U

Ulnar Nerve Transplantation in Injuries of the Elbow, In Support of — To Do, Or Not To Do, That Is the Question Aboulafia, E. D., Lt., M.C.) 209
Urinary Bacterial Colony Counts, Practical Error in (Potts, Ronald S.) 91
Urine Cultures in a General Hospital (Quigley, Philip J. G.) .. 450

V

Vassopressor Drugs in Shock Following Myocardial Infarction (Chatterjee, Manu) 10
Vermont's Many-Pronged Attack on Chronic Illness and Disability (Smith, Robert Pease) 145

X

X-ray, Rational Use of, in Medicine and Dentistry with Particular Regard to Protective Measures (Soule, A. Bradley, Jr., Heilbronn, Hans and Bannister, Ralph) 125

Special

Chemotherapy of Specific Infectious Diseases of the Lower Respiratory Tract (Reprint from American College of Chest Physicians) 342
Federal Government and Medical Care (Coffin, Frank M.) 302
Maine Doctors of Long Ago (Marriner, Ernest C.) 62
Radiation in Chest X-ray (Young, George E.) 193
Social Security Disability Program, Physician's Role in (McWethy, Wilson H.) 424
Social Security, Why Physicians Should Not be Under (Slobe, Frederick W.) 17
Summaries of Articles from The Bulletin on Rheumatic Diseases: (Prepared by Robertson, George J.) 104
Metabolic Defect in Gout; Recognition and Management of Spinal Cord and Nerve Root Compression Caused by Osteophytes; Juvenile Rheumatoid Arthritis; Primary Generalized Osteoarthritis; Osteoarthritis and Its Management.

Authors

Aboulafia, E. D., Brunswick, Maine 209
Aranson, Albert, Portland, Maine 399
Babcock, Albert L., Bangor, Maine 444
Bannister, Ralph, Burlington, Vermont 125
Beegel, Paul M., Lewiston, Maine 86
Blaisdell, Elton R., Portland, Maine 415
Blumberg, Edward, Pownal, Maine 272
Bowman, Peter W., Pownal, Maine 272, 338
Brown, Lloyd, Bangor, Maine 447
Callow, Allan D., Boston, Massachusetts 361
Cameron, Hamilton, New York, New York 299
Carrier, John W., Lewiston, Maine 85
Chambers, William N., Hanover, New Hampshire 12
Chapin, M. A., Lewiston, Maine 81, 263
Chatterjee, Manu, Brunswick, Maine 10
Coffin, Frank M., Washington, D. C. 302
Condit, George W., New York, New York 305
Crowley, Leonard V., Burlington, Vermont 171
Cunningham, John C., Burlington, Vermont 186
Curran, J. A., Boston, Massachusetts 386
Daly, John F., Burlington, Vermont 190
Daniels, Donald H., Togus, Maine 258
Dennis, Richard H., Waterville, Maine 37
Donaghy, R. M. Peardon, Burlington, Vermont 177
Emanuel, Meyer, Togus, Maine 247
Ervin, Edmund N., Waterville, Maine 48
Feinblatt, Henry M., Brooklyn, New York 99
Fisher, John H., Jr., Boston, Massachusetts 376
Fisher, Samson, Waterville, Maine 40
Fishman, Louis, Lewiston, Maine 93
Gant, Julian C., Madison, Tennessee 99
Gessner, Ira H., Burlington, Vermont 137
Goldsmith, Carl M., Burlington, Vermont 81
Grant, Joseph L., Hanover, New Hampshire 12
Gross, Stanley J., Burlington, Vermont 174
Guite, L. A., Waterville, Maine 330
Hays, Richard M., Boston, Massachusetts 372
Heilbronn, Hans, Burlington, Vermont 125
Hill, Howard F., Waterville, Maine 44
Hornberger, H. Richard, Waterville, Maine 46
House, Royce E., Washington, D. C. 1
Jackler, J. M., Waterville, Maine 330
Katoh, June, Burlington, Vermont 174
Kellogg, Robert O., Bangor, Maine 441
Lantman, John, Burlington, Vermont 183
Lepeschkin, E., Burlington, Vermont 8
MacCarty, W. C., Jr., Hanover, New Hampshire 14
Maeck, John Van S., Burlington, Vermont 174
Manter, Wilbur B., Bangor, Maine 462
Marriner, Ernest C., Waterville, Maine 62
Mavor, Huntington, Burlington, Vermont 179
Meloy, William C., Washington, D. C. 1
Miller, Clark F., Lewiston, Maine 85
Morrow, Rufus C., Burlington, Vermont 135
McManus, R. A., Hanover, New Hampshire 14
McQuillan, Arthur H., Waterville, Maine 57
McWethy, Wilson H., Augusta, Maine 424
Parrot, Hadley, Bangor, Maine 447
Peterson, O. S., Jr., Burlington, Vermont 140
Pfeiffer, Paul H., Waterville, Maine 55
Porter, Edward C., Bangor, Maine 447
Potts, Ronald S., Lewiston, Maine 91
Poulin, James E., Waterville, Maine 332
Quigley, Philip J. G., Bangor, Maine 450
Raab, W., Burlington, Vermont 6
Richman, Justin L., Boston, Massachusetts 380
Robertson, George J., Waterville, Maine 104
Sawyer, Howard P. Jr., Portland, Maine 293
Schiller, Irving W., Boston, Massachusetts 384
Schumacher, George A., Burlington, Vermont 150, 179
Slobe, Frederick W., Chicago, Illinois 17
Smith, Durwood J., Burlington, Vermont 205
Smith, Robert P., Burlington, Vermont 145
Soule, A. Bradley, Jr., Burlington, Vermont 125
Southern, Edward M., Waterville, Maine 327
Spellman, F. A., Togus, Maine 252
Stinchfield, Allan J., Augusta, Maine 96
Stitham, Linus J., Dover-Foxcroft, Maine 405
Surawicz, Borys, Burlington, Vermont 216
Thompson, Philip P. Jr., Portland, Maine 409
Turner, F. P., Togus, Maine 252
Tyler, Edward A., Hanover, New Hampshire 297
Van Duyn, John, Bangor, Maine 453
Wadsworth, Richard C., Bangor, Maine 467
Wallman, Lester J., Burlington, Vermont 177
Waters, Harold J., Boston, Massachusetts 402
Weinstein, Louis, Boston, Massachusetts 365
Wolf, George A. Jr., Burlington, Vermont 155, 213
Woodruff, Richard S., Burlington, Vermont 143
Young, George E., Skowhegan, Maine 193
Zolov, Benjamin, Portland, Maine 335

Across The Desk

Subjects of Interest to Members of the Medical Profession Prepared by Daniel F. Hanley, M.D., Editor, Including the Following:
A.M.A. Actions on Legislative Issues ... 314
Congressmen Question Medical Fee Increases ... 196
Diagnostic Treatment Centers in Rural Areas ... 194
Drafting of Doctors ... 196, 348, 390
Driver Training ... 158
Health Facilities for Rural Maine ... 156
Health and Research, Funds Granted ... 313
Hill-Burton Hospital Construction ... 156
Graduate Training ... 428
Hospital Building Asked to Curb Recession ... 109
Hospitals Practice Medicine? ... 66
Internal Revenue Service ... 196
Jenkins-Keogh Bill ... 111
Labor Health Conferees Berate A.M.A. Free Choice ... 274
Medical Grievance Committees ... 157
Medical Reforms Shown, Federal, Hoover-Sired ... 109
Medicare ... 23, 65, 105, 218, 220, 313, 347, 389, 428, 473
Medicine and the Press ... 25
Mouth-to-Mouth Breathing Resuscitation Described ... 245
Nonpolio Viruses Found to Cause Paralysis ... 275
Nursing Homes ... 65, 388
Polio Shots ... 66, 110, 348
Power Mower Safety Rules ... 275
Plasma Storage Eliminates Danger from Hepatitis ... 157
"Progressive Care" in Hospitals ... 25
Social Security ... 23, 110, 158
Socialism Fears Grip A.M.A. at Philadelphia ... 24
Staph Infections in Hospitals ... 389
TB Decline ... 24
Visual Impairment, Guide to Measure ... 429
X-rays, Restraint in Use of ... 24

Editorials

Role of the Community Hospital in the Pursuit of Medical Excellence (Curran, J. A.) ... 386
University of Vermont, College of Medicine (Wolf, George A. Jr.) ... 155

General

American College of Chest Physicians (Resident Loan Fund) ... 170

Answering Blue Shield Questions:
Is Medicine in the "Insurance Business"? ... 29
Is Blue Shield A "Third Party"? ... 114
The Other Side of the Blue Shield Coin ... 238
Blue Shield — Servant of Medicine ... 322
Blue Shield — America's Unique Contribution to Medical Economics ... 350
You And Your Blue Shield "Savings Bank" ... 392

Book Reviews:
New England Hospitals, 1790-1833 ... 36

Correspondence:
Social Security For Physicians ... 123
Continental Casualty Company ... 203
Institution For TB Research ... 204
Hand Talking Chart ... 204
A.M.A. Council On National Defense ... 440

County Medical Societies:
Deceased ... 32, 121, 165, 287, 393, 482
New Members ... 32, 121, 165, 242, 393, 437, 480



LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Society Notes:
Androscoggin 72, 119, 164, 200, 436
Aroostook 480
Cumberland 72
Franklin 74
Hancock 30, 74, 120, 164, 436
Kennebec 30
Knox 164
Lincoln-Sagadahoc 30, 242, 436
Penobscot 30, 72, 165, 200, 393, 478
Piscataquis 165, 393
Washington 120, 200, 480
York 74, 165, 242, 436

Department of Health and Welfare, State of Maine:
The Etiology of Mental Retardation (Margaret J. Giannini, M.D.) 26, 69
The Importance of Good Nutrition During Pregnancy (Dorothy Woodcock and Joyce Mitchell) 118
Advisory Committee Considers Medical Care Program 160
Role of the Physician in Nursing Home Services (Carolyn P. Adde) 197
Reporting and Nomenclature of Clinical Poliomyelitis 234
Major Impairments of Recipients of Aid to the Disabled, March, 1958 (Vance G. Springer) 277
Tuberculin Testing in Aroostook County, Marguerite C. Dunham, M.D.) 317
Therapy of the Nephrotic Syndrome (Francis X. Fellers, M.D.) 432
Prenatal Serologic Examinations Reported on Certificates of Live Births, Maine, 1956 (Edson K. Labrack) 476
Aseptic Meningitis and Paralytic Poliomyelitis (Margaret H. Oakes 477

Maine Board of Registration of Medicine:
Physicians Licensed to Practice in Maine 32, 201, 354

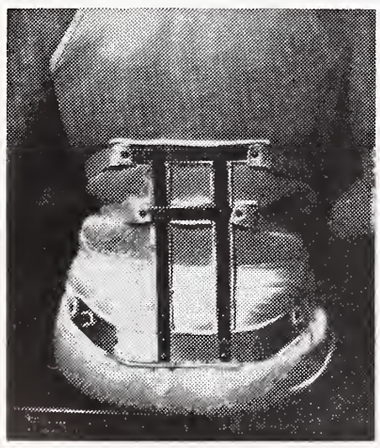
Maine Medical Association:
Reports, 1957-1958:
Auditor's Report 239
Committees, Standing:
Health Insurance 229
Medical Education and Hospitals 284
Public Relations 228
Board of Ethics and Discipline 229
Committees, Special:
Arthritis 230
Maine Committee, A.M.E.F. 232
Conservation of Vision 229
Amy W. Pinkham Fund 231
Diabetes 231
Mental Health 232
School Health 232
Civil Defense 324
Council:
First District, Carl E. Richards 319
Second District, James A. MacDougall 319
Third District, Robert L. Allen 319
Fifth District, Raymond E. Weymouth 319
Delegate to A.M.A., Philip P. Thompson, Jr. 67, 320
Delegate to Maine Multidisciplinary Health Study Group, Paul S. Hill, Jr. 112
Annual Session:
Delegates — County Medical Societies 224
Golf Tournament 352
Honorary Members 223
Pictures 73
Program 197, 221
Technical Exhibits 225
Fall Clinical Session 430
Budget, 1958-1959 315
Committees, 1958-1959:
Standing 283
Special 434
Council, 1958-1959 315
Secretary's Notebook:
Council 113, 318
House of Delegates, 1958 Interim and Annual Meetings 113, 315
1958 Annual Session 159, 316

Tuberculosis Abstracts 34, 76, 116, 162, 236

Woman's Auxiliary to M.M.A.
Annual Conference State Presidents 33
1958-1959 Officers 245
Fall Meeting Program 431

Necrologies

Abbott, Henry W. (Waterville, Maine) 119
Bradford, William H. (Portland, Maine) 435
Clarke, Chester L. (Portland, Maine) 167
Dash, George E. (Boothbay Harbor, Maine) 286
Drake, Eugene H. (Portland, Maine) 481
Gordon, Charles H. (Portland, Maine) 394
Hanlon, Francis W. (Portland, Maine) 166
Haskell, Alfred W. (Portland, Maine) 75
McCarty, Eugene M. (Rumford, Maine) 201
Moore, Arnold W. (Augusta, Maine) 32
Moulton, John H. (Rangeley, Maine) 394
Noyes, H. Louella (Rumford, Maine) 435
Peaslee, C. Capen, Jr. (Portland, Maine) 166
Poulin, Joseph E. (Lewiston, Maine) 75
Shanahan, William H. (Portland, Maine) 353
Smith, Leroy H. (Winterport, Maine) 75, 166
Stetson, Elbridge G. A. (Brunswick, Maine) 353
Tapley, Eugene D. (Belfast, Maine) 201
Taylor, Cornelius J. (Bangor, Maine) 244
Tibbetts, Raymond R. (Bethel, Maine) 286
Thompson, John B. (Bangor, Maine) 353
Webster, Fred P. (Portland, Maine) 287
Wescott, Clement P. (Windham Hill, Maine) 244
Weymouth, Frank D. (Brewer, Maine) 394
Young, Ernest T. (Millinocket, Maine) 167
Young, William J. (Auburn, Maine) 119



BACK BRACES

Men or Women

Taylor Style
Lumbar 12″
McAusland

Drop Foot and Leg Braces

Fast Delivery

BLACKWELL'S

Portland, Maine

IODINE LABORATORY, Inc.

309 Edwards Street
New Haven 11, Connecticut

PROTEIN BOUND IODINE
S.G.O. TRANSAMINASE

HUGH L. DWYER, M.D., *Director*

Containers sent on request

AUG 2 6 '58
CIRCULATES AFTER
ITY OF MAINE
LIBRARY
Founded 1916
JUL 29 58
OOL OF MEDICINE

MAINE MEDICAL ASSOCIATION

OFFICIAL ROSTER—JUNE 1958

Association Members

County and Alphabetical Listing

Auxiliary Members

County Listing

Supplement to

The Journal of the Maine Medical Association

Volume 49, Number 7

July, 1958

Past Presidents

Maine Medical Association

*Isaac Lincoln, M.D., Brunswick	April-June, 1853
*James McKeen, M.D., Topsham	1853-1854
*Charles Millett, M.D., Lewiston	1854-1855
*Joseph H. Estabrook, M.D. Camden	1855-1856
*Hosea Rich, M.D., Bangor	1856-1857
*Gilman Daveis, M.D., Portland	1857-1858
*J. C. Bradbury, M.D., Old Town	1858-1859
*H. H. Hill, M.D., Augusta	1859-1860
*T. G. Stockbridge, M.D., Bath	1860-1861
*H. M. Harlow, M.D., Augusta	1861-1862
*Alonzo Garcelon, M.D., Lewiston	1862-1863
*J. T. Gilman, M.D., Portland	1863-1864
*N. P. Monroe, M.D., Belfast	1864-1865
*Amos Nourse, M.D., Bath	1865-1866
*S. H. Tewksbury, M.D., Portland	1866-1867
*Cyrus Briggs, M.D., Augusta	1867-1868
*I. T. Dana, M.D., Portland	1868-1869
*D. McRuer, M.D., Bangor	1869-1870
*B. F. Buxton, M.D., Warren	1870-1871
*A. J. Fuller, M.D., Bath	1871-1872
*A. P. Snow, M.D., Winthrop	1872-1873
*A. F. Page, M.D., Bucksport	1873-1874
*Thomas H. Brown, M.D., Paris	1874-1875
*J. H. Bates, M.D., Yarmouth	1875-1876
*E. F. Sanger, M.D., Bangor	1876-1877
*T. H. Jewett, M.D., South Berwick	1877-1878
*M. C. Wedgwood, M.D., Lewiston	1878-1879
*S. C. Gordon, M.D., Portland	1879-1880
*William Warren Greene, M.D., Portland	1880-1881
*A. K. P. Meserve, M.D., Buxton	1881-1882
*George E. Brickett, M.D., Augusta	1882-1883
*Oren A. Horr, M.D., Lewiston	1883-1884
*Thomas A. Foster, M.D., Portland	1884-1885
*Sumner Laughton, M.D., Bangor	1885-1886
*J. B. Walker, M.D., Thomaston	1886-1887
*Frederick C. Thayer, M.D., Waterville	1887-1888
*Stephen H. Weeks, M.D., Portland	1888-1889
*Benjamin F. Sturgis, M.D., Auburn	1889-1890
*Samuel B. Hunter, M.D., Machias	1890-1891
*Edwin M. Fuller, M.D., Bath	1891-1892
*Alfred Mitchell, M.D., Brunswick	1892-1893
*John A. Donovan, M.D., Lewiston	1893-1894
*W. P. Giddings, M.D., Gardiner	1894-1895
*Lewis W. Pendleton, M.D., Portland	1895-1896
*D. A. Robinson, M.D., Bangor	1896-1897
*Wallace K. Oakes, M.D., Auburn	1897-1898
*Charles O. Hunt, M.D., Portland	1898-1899
*Bigelow T. Sanborn, M.D., Augusta	1899-1900
*Edward H. Hill, M.D., Lewiston	1900-1901
*Frederic H. Gerrish, M.D., Portland	1901-1902
*Hiram Hunt, M.D., Greenville	1902-1903
*Augustus S. Thayer, M.D., Portland	1903-1904
*F. L. Dixon, M.D., Lewiston	1904-1905
*Randall D. Bibber, M.D., Bath	1905-1906
*C. E. Williams, M.D., Auburn	1906-1907
*B. B. Foster, M.D., Portland	1907-1908
*Alfred D. Sawyer, M.D., Fort Fairfield	1908-1909
*Galen M. Woodcock, M.D., Bangor	1909-1910
*E. H. Bennett, M.D., Lubec	1910-1911
*Stanley P. Warren, M.D., Portland	1911-1912
*Ralph H. Marsh, M.D., Guilford	1912-1913
*W. C. Peters, M.D., Bangor	1913-1914
*H. L. Bartlett, M.D., Norway	1914-1915
*Erastus E. Holt, M.D., Portland	1915-1916
*W. F. Hart, M.D., Camden	1916-1917
*James A. Spalding, M.D., Portland	1917-1918
*George H. Coombs, M.D., Waldoboro	1918-1919
*H. B. Mason, M.D., Calais	1919-1920
*Theodore E. Hardy, M.D., Waterville	1920-1921
*Addison S. Thayer, M.D., Portland	1921-1922
*L. T. Snipe, M.D., Bath	1922-1923
*C. A. Moulton, M.D., Hartland	1923-1924
*F. W. Mann, M.D., Houlton	1924-1925
*J. D. Phillips, M.D., Southwest Harbor	1925-1926
*L. P. Gerrish, M.D., Lisbon Falls	1926-1927
*Herbert F. Twitchell, M.D., Portland	1927-1928
*Frank Y. Gilbert, M.D., Portland	1928-1929
Delbert M. Stewart, M.D., South Paris	1929-1930
*Charles B. Sylvester, M.D., Portland	1930-1931
*Ernest V. Call, M.D., Lewiston	1931-1932
*E. Delmont Merrill, M.D., Dover-Foxcroft	1932-1933
Warren E. Kershner, M.D., Bath	1933-1934
*Edwin W. Gehring, M.D. Portland	1934-1935
*John L. Johnson, M.D., Bangor	1935-1936
Frederick T. Hill, M.D., Waterville	1936-1937
*Ralph W. Wakefield, M.D., Bar Harbor	1937-1938
Willard H. Bunker, M.D., York Harbor	1938-1939
George L. Pratt, M.D., Farmington	1939-1940
Thomas A. Foster, M.D., Portland	1940-1941
P. L. B. Ebbett, M.D., Houlton	1941-1942
Carl H. Stevens, M.D., Belfast	1942-1943
*Oscar F. Larson, M.D., Machias	1943-1944
R. V. N. Bliss, M.D., Blue Hill	1944-1945
Adam P. Leighton, M.D., Portland	1945-1946
*John O. Piper, M.D., Waterville	1946-1947
Stephen A. Cobb, M.D., Sanford	1947-1948
Forrest B. Ames, M.D., Bangor	1948-1949
Ralph A. Goodwin, M.D., Auburn	1949-1950
Foster C. Small, M.D., Belfast	1950-1951
C. Harold Jameson, M.D., Rockland	1951-1952
Eugene H. Drake, M.D., Portland	1952-1953
Norman H. Nickerson, M.D., Greenville	1953-1954
*Robert W. Belknap, M.D., Damariscotta	June-August 1954 (Died in Office)
William F. Mahaney, M.D., Saco	1954-1955
Martyn A. Vickers, M.D., Bangor	1955-1956
Armand Albert, M.D., Van Buren	1956-1957
Francis A. Winchenbach, M.D., Bath	1957-1958

*Deceased

Members

Active—Honorary—Affiliate—Senior—Military—Junior

ANDROSCOGGIN COUNTY

President—Paul J. LaFlamme, M.D.
Secretary-Treasurer—Donald L. Anderson, M.D.

ACTIVE MEMBERS

Anderson, Donald L.	369 Main St., Lewiston
Beaudet, Simon C.	25 Webster St., Lewiston
Beeaker, Vincent H.	85 Wood St., Lewiston
Beegel, Paul M.	80 Goff St., Auburn
Beliveau, Bertrand A.	56 Howe St., Lewiston
Beliveau, Romeo A.	89 Pine St., Lewiston
Bernard, Romeo A.	26 Beacon St., Lewiston
Branch, Charles F.	Central Maine General Hospital, Lewiston
Brien, Maurice	76 Pine St., Lewiston
Busch, John J.	105 Elm St., Mechanic Falls
Caron, Frederic J.	174 Bates St., Lewiston
Carrier, John W.	Central Maine General Hospital, Lewiston
Chapin, Milan A.	237 Turner St., Auburn
Chenery, Frederick L., Jr.	Monmouth
Clapp, Waldo A.	215 College St., Lewiston
Clapperton, Gilbert	300 Main St., Lewiston
Cloutier, Wilfrid A.	210 Sabattus St., Lewiston
Cox, William V.	133 Court St., Auburn
Davis, Wirt L.	91 Bartlett St., Lewiston
DuMais, Alcid F.	125 College St., Lewiston
Dycio, George	55 Broad St., Auburn
Ferguson, Barbara	80 Goff St., Auburn
Fishman, Louis N.	327 Main St., Lewiston
Flanders, Merton N.	1 High St., Lewiston
Fortier, Paul J. B.	70 Pine St., Lewiston
Frost, Robert A.	93 Summer St., Auburn
Gauvreau, Horace L.	82 Pine St., Lewiston
Giguere, Eustache N.	90 Webster St., Lewiston
Goldman, Morris E.	524 Main St., Lewiston
Goodwin, Ralph A. Jr.	33 Court St., Auburn
Green, Ross W.	33 Court St., Auburn
Greene, John P.	19 Sabattus St., Lewiston
Greene, Merrill S. F.	466 Main St., Lewiston
Gross, Leroy C.	19 Goff St., Auburn
Haas, Rudolph	488 Main St., Lewiston
Hannigan, Charles A.	85 Goff St., Auburn
Hannigan, Margaret H.	85 Goff St., Auburn
Harkins, Michael J.	437 Main St., Lewiston
Hiebert, Joelle C., Jr.	369 Main St., Lewiston
Horsman, Donald H.	50 Goff St., Auburn
James, Chakmakis	47 Howe St., Lewiston
James, John A.	117 Goff St., Auburn
Konecki, John T.	St. Mary's Hospital, Lewiston
LaFlamme, Paul J.	78 Pine St., Lewiston
Lemaitre, Paul G.	268 Webster St. Lewiston
Lidstone, Frederick B.	117 Goff St., Auburn
Lynn, Geraldine	188 Russell St., Lewiston
Martel, Cyprien L., Jr.	355 Pine St.,Lewiston
Matuzel, Jane	Western Maine San., Greenwood Mountain
Methot, Frank P.	256 Lisbon St., Lewiston
Miller, Clark F.	46 Madison St., Auburn
Miller, Hudson R.	11 Turner St., Auburn
Morin, Gerard L.	460 Main St., Lewiston
Morissette, Russell A.	460 Main St., Lewiston
Nadeau, J. Paul	91 Pine St., Lewiston
Nadeau, Lawrence A.	92 Pine St., Lewiston
Rand, Carleton H.	219 Oak St., Lewiston
Reeves, Edward L.	179 Sabattus St., Lewiston
Reeves, Helene M.	179 Sabattus St., Lewiston
Rock, Daniel A.	477 Main St.,Lewiston
Shems, Albert	487 Main St., Lewiston
Shields, Daniel R.	369 Main St., Lewiston
Spear, William	107 Main St., Lisbon Falls
Steele, Charles W.	472 Main St., Lewiston
Sweatt, Linwood A.	48 Drummond St., Auburn
Tchao, Jou S.	82 Pine St., Lewiston
Thacher, Henry C.	11 Turner St., Auburn
Tibbetts, Otis B.	33 Court St., Auburn
Timberlake, Ralph M. Jr.	Central Maine General Hospital, Lewiston
Tousignant, Camille	111 Pine St., Lewiston
Twaddle, Gard W.	57 Goff St., Auburn
Viles, Wallace E.	Turner
Wakefield, Robert D.	Central Maine General Hospital, Lewiston
Webber, Wedgwood P.	376 Main St., Lewiston
Williams, Charles J.	93 Main St., Livermore Falls
Zanca, Ralph A.	86 Pine St., Lewiston

HONORARY MEMBERS

Buker, Edson B.	RFD No. 2, Auburn
Plummer, Albert W.	Lisbon Falls
Renwick, Ward J.	Summer—102 Goff St., Auburn Winter—Colonial Hotel, St. Petersburg, Fla.
Roy, Leopold O.	54 Pine St., Lewiston
Russell, Daniel F. D.	Leeds
Webber, Wallace E.	297 Main St., Lewiston

SENIOR MEMBERS

Fahey, William J.	17 Frye St., Lewiston
Goodwin, Ralph A., Sr.	56 Denison St., Auburn
Higgins, Everett C.	149 College St., Lewiston
Hirshler, Max	25 Bardwell St., Lewiston
Pratt, Harold S.	Livermore Falls
Williams, James A.	40 Pleasant St., Mechanic Falls

MILITARY SERVICE

Tze, Channam, MC 98 General Hospital, APO No. 34, c/o Postmaster, New York

AROOSTOOK COUNTY

President—Melvin R. Aungst, M.D.
Secretary-Treasurer—Clyde I. Swett, M.D.

ACTIVE MEMBERS

Albert, Armand	193 Main St., Van Buren
Albert, Joseph L.	Fort Kent
Aungst, Melvin R.	Morneault Building, Fort Kent
Berrie, Lloyd H.	64 Sweden St., Caribou
Boone, Storer W.	429 Main St., Presque Isle
Brennan, Thomas V.	555 Main St., Presque Isle
Brown, Stephen S.	Mars Hill
Burr, Charles G.	90 Court St., Houlton
Carter, Loren F.	Northern Maine San., Presque Isle
Carton, Arthur K.	Market Square, Houlton
Collins, H. Douglas	Caribou Clinic, Caribou
Donahue, Clement L.	13 Collins St., Caribou
Donahue, Gerald H.	4 Station St., Presque Isle
Dunham, Marguerite C.	Northern Maine San., Presque Isle
Etscovitz, Eli A.	Cary Memorial Hospital, Caribou
Faucher, Francois J.	Grand Isle
Gabrielson, Robert M.	Caribou Clinic Building, Caribou
Gormley, Eugene G.	Market Square, Houlton
Graves, Robert A.	3 Green St., Fort Fairfield
Gregory, Frederick J.	16 High St., Caribou
Griffiths, Eugene B.	429 Main St., Presque Isle
Harrison, George J.	Market Sq., Houlton
Harvey, Thomas G.	46 So. Main St., Caribou
Hayward, I. Mead, Jr.	18 Sweden St., Caribou
Helfrich, Harry M. Jr.	555 Main St., Presque Isle
Helfrich, Nancy R.	555 Main St., Presque Isle
Herson, Joseph H.	Main St., Patten
Hogan, Chester F.	62 Main St., Houlton
Johnson, Gordon N.	P. O. Box 86, Houlton
Junda, Rudolph	85 Pine Ridge Rd., Newton, Mass.
Kimball, Herrick C.	P. O. Box 372, Fort Fairfield
Kirk, William V.	Eagle Lake
Kramer, Henry F.	Caribou Clinic, Caribou
Labbe, Onil B.	Van Buren
Levesque, Romeo J.	Frenchville
Madigan, John B.	Houlton
Mock, George F.	Arthur R. Gould Mem. Hosp., Presque Isle

Morrison, James B.	Main St., Ashland
Page, Rosario A.	18 Sweden St., Caribou
Pines, Philip	Maine St., Limestone
Price, Richard D.	8 Burns Ave., Caribou
Proctor, Ray A.	60 Vesta Circle, Caribou
Reynolds, Arthur P.	420 Main St., Presque Isle
Rideout, Samuel	3 Green St., Fort Fairfield
Savage, Richard L.	4 Elm St., Fort Kent
Smith, Carroll H. Jr.	Box 967, Presque Isle
Smith, Margaret S.	Box 967, Presque Isle
Somerville, Robert B.	473 Main St., Presque Isle
Somerville, Wallace B.	Mars Hill
St. Pierre, Charles E.	51 Main St., Van Buren
Sterlin, Andre	10 High St., Fort Kent
Swett, Clyde I.	18 Sherman St., Island Falls
Toussaint, Leonid G.	P. O. Box 9, Fort Kent
Vogell, Frederick C.	18 Sweden St., Caribou
Warren, H. Draper	Caribou Clinic, Caribou
White, Leland M.	11 Riverview Ave., Caribou
Wilson, G. Ivan	40 Court St., Houlton

HONORARY MEMBERS

Damon, Albert H.	Limestone
Doble, Eugene H.	6 Church St., Presque Isle
Ebbett, Penry L. B.	Houlton
Huggard, Leslie H.	29 Huggard Ave., Limestone

SENIOR MEMBER

Donovan, Joseph A.	Houlton

AFFILIATE MEMBER

Osborne, John R.	Veterans Administration, Togus

MILITARY SERVICE

Giberson, Raymond G. (Major)	555 Main St., Presque Isle

CUMBERLAND COUNTY

ACTIVE MEMBERS

President—Ralph Heifetz, M.D.

Secretary-Treasurer—Stanley E. Herrick, Jr., M.D.

Agan, Robert W.	144 State St., Portland
Ansell, Harvey B.	39 Deering St., Portland
Applin, Hilton H.	6 Cumberland St., Brunswick
Aranson, Albert	39 Deering St., Portland
Asali, Louis A.	29 Deering St., Portland
Asherman, Edward G.	31 Deering St., Portland
Babalian, Leon	38 Deering St., Portland
Bachrach, Louis	16 Union St., Brunswick
Baird, Charles C.	648 Main St., Haverhill, Mass.
Baldini, Elio	22 Bramhall St., Portland
Baldwin, Warren C.	42 Deering St., Portland
Bennet, Eben T.	49 Deering St., Portland
Bergmann, Jerome W.	255 Western Promenade, Portland
Bettle, Ronald A.	32 Federal St., Brunswick
Bidwell, Robinson L.	31 Bramhall St., Portland
Bischoffberger, John M.	Naples
Bishop, Lloyd W.	211 Vaughan St., Portland
Blaisdell, Elton R.	12 Deering St., Portland
Bowman, Peter W.	Box C, Pownal
Bramhall, Theodore C.	185 Craigie St., Portland
Branson, Sidney R.	37 Main St., South Windham
Broggi, Frank S.	18 Neal St., Portland
Burnett, Claude A., Jr.	59 Deering St., Portland
Burrage, William C.	57 Deering St., Portland
Capron, Charles W.	22 Bramhall St., Portland
Casey, William L.	131 State St., Portland
Chatterjee, Manu	11 McKeen St., Brunswick
Christensen, Harry E.	92 Baxter Blvd., Portland
Clark, Frederick B.	131 State St., Portland
Clarkin, Charles P.	64 Brookside Rd., Portland
Colby, Edward W.	389 Congress St., Portland
Cole, Donald P.	31 Deering St., Portland
Crane, Lawrence	265 Western Promenade, Portland
Cummings, George O.	47 Deering St., Portland
Cummings, George O., Jr.	47 Deering St., Portland
Daniels, Donald H.	R.R. #1, Readfield
Darche, Albert A.	782 Main St., Westbrook
Davidson, David	235 State St., Portland
Davidson, Gisela K.	235 State St., Portland
Davies, Lloyd G.	Fryeburg
Davis, Harry E.	169 State St., Portland
Derry, G. Hermann	690 Congress St., Portland
Dionne, Maurice J.	26-28 Cumberland St., Brunswick
Dooley, Francis M.	53 Deering St., Portland
Dore, Kenneth E.	133 Main St., Fryeburg
Dorogi, Louis V.	149 Main St., Freeport
Dorsey, F. Donald	52 Deering St., Portland
Douphinett, Otis J.	763 Congress St., Portland
Drake, Emerson H.	18 Bramhall St., Portland
Drake, Eugene H.	58 Deering St., Portland
Dunham, Carl E.	188 State St., Portland
Dyhrberg, Norman E.	323 Main St., Cumberland Mills
Earnhardt, Joseph B.	55 Stroudwater St., Westbrook
Eppinger, Ernest	52 Belmont St., Portland
Fagone, Francis A.	312 Congress St., Portland
Ferguson, Franklin F.	22 Arsenal St., Portland
Finks, Henry B.	73 Deering St., Portland
Fish, Nicholas	235 State St., Portland
Fogg, Philip S., Jr.	27 Deering St., Portland
Fox, Francis H.	83 West St., Portland
Freeman, William E.	107 Main St., Yarmouth
Gates, Clifford W.	Flaggy Meadow Rd., Gorham
Geer, Charles R.	690 Congress St., Portland
Geer, George I., Jr.	690 Congress St., Portland
Getchell, Ralph A.	690 Congress St., Portland
Geyerhahn, George	73 Deering St., Portland
Gibbons, John F.	22 Arsenal St., Portland
Glassmire, Charles R.	58 Deering St., Portland
Goduti, Richard J.	704 Congress St., Portland
Good, Philip G.	38 Deering St., Portland
Gordon, Charles H.	67 Beacon St., Portland
Greco, Edward A.	12 Pine St., Portland
Hallett, George W., Jr.	131 State St., Portland
Hamel, John R.	50 Deering St., Portland
Hanley, Daniel F.	58 Federal St., Brunswick
Hanson, Henry W., Jr.	Cumberland Center
Hawkes, Richard S.	47 Deering St., Portland
Heifetz, Ralph	173 State St., Portland
Herrick, Stanley E., Jr.	12 Deering St., Portland
Hill, Douglas R.	855 Sawyer St., South Portland
Hinckley, Harris	331 Cottage Rd., South Portland
Holt, C. Lawrence	27 Deering St., Portland
Hudson, Henry A.	11 Gage St., Bridgton
Huntress, Roderick L.	988 Sawyer St., South Portland
Ives, Howard R.	31 Deering St., Portland
Jacobson, Payson B.	295 Brighton Ave., Portland
Johnson, Albert C.	45 Deering St., Portland
Johnson, Henry P.	32 Deering St., Portland
Johnson, Oscar R.	18 Deering St., Portland
Lape, C. Philip	131 Chadwick St., Portland
Lappin, John J.	171 State St., Portland
Laughlin, K. Alexander	201 State St., Portland
Leary, Gerald C.	144 State St., Portland
Leighton, Wilbur F.	192 State St., Portland
Leiter, Laban W.	175 Vaughan St., Portland
Libby, Harold E.	310 Main St., Westbrook
Lincoln, John R.	22 Bramhall St., Portland
Logan, G. E. C.	131 State St., Portland
Lombard, Reginald T.	793 Main St., South Portland
Lorimer, Robert V.	148 State St., Portland
Love, Robert B.	75 Main St., Gorham
Lovely, David K.	46 Deering St., Portland
Mack, Francis X.	144 State St., Portland
MacVane, William L., Jr.	211 State St., Portland
Maier, Paul	723 Congress St., Portland
Maltby, George L.	31 Bramhall St., Portland
Marshall, Donald F.	142 High St., Portland
Marston, Paul C.	Kezar Falls
Martin, Ralf	58 Deering St., Portland
Martin, Thomas A.	203 State St., Portland
Miller, Thor	752 Main St., Westbrook
Monkhouse, William A.	131 State St., Portland
Morrison, Alvin A.	57 Deering St., Portland
Moulton, Albert W., Jr.	180 State St., Portland
McAdams, William R.	723 Congress St., Portland
McCann, Eugene C.	49 Deering St., Portland
McCrum, Philip H.	188 State St., Portland
McFarland, Edward A.	159 Maine St., Brunswick
McIntire, Barron F., Jr.	13 W. Elm St., Yarmouth
McLean, E. Allan	29 Deering St., Portland
McManamy, Eugene P.	209 State St., Portland

McMichael, Morton	73 Deering St., Portland
O'Donnell, Eugene E.	32 Deering St., Portland
Olmsted, Burton L.	73 Deering St., Portland
Orbeton, Everett A.	131 State St., Portland
Osher, Harold L.	131 Chadwick St., Portland
Ottum, Alvin E.	150 State St., Portland
Parker, James M.	18 Bramhall St., Portland
Pawle, Robert H.	Steep Falls
Penta, Walter E.	316 Woodford St., Portland
Petterson, Herman C.	Chebeague Island
Pogue, Jackson S.	529 Gilmore Ave., Trafford, Pa.
Polisner, Saul R.	143 Vaughan St., Portland
Porter, Joseph E.	22 Bramhall St., Portland
Sager, George F.	18 Bramhall St., Portland
Santoro, Domenico A.	43 Deering St., Portland
Sawyer, Howard P., Jr.	22 Bramhall St., Portland
Schwartz, Carol	35 Deering St., Portland
Scolten, Adrian H.	32 Deering St., Portland
Selvage, Irving L., Jr.,	22 Bramhall St., Portland
Shapiro, Morrill	29 Deering St., Portland
Sidwell-Thompson, Doris M.	P. O. Box C, Pownal
Skillin, Charles E.	690 Congress St., Portland
Skillin, Frederick W.	69 So. High St., Bridgton
Sowles, Horace K.	R.F.D. No. 1, Cumberland Center
Spencer, Jack	31 Deering St., Portland
Stebbins, Arthur P.	131 State St., Portland
Stephenson, Richard B.	131 State St., Portland
Stevens, Theodore M.	148 State St., Portland
Storer, Daniel P.	12 Deering St., Portland
Sylvester, Stanley B.	1377 Washington Ave., Portland
Tabachnick, Henry M.	110 Park Ave., Portland
Taylor, William F.	Providence Ave., Falmouth Foreside
Tetreau, William J.	131 Chadwick St., Portland
Thompson, Philip P., Jr.	704 Congress St., Portland
Titherington, John B.	209 State St., Portland
Tougas, Raymond A.	8 Cumberland St., Brunswick
Turcotte, Guy N.	38 Deering St., Portland
Turgeon, Raphael F.	836 Main St., Westbrook
Uhrik, Joseph	Shaker Rd., Gray
Van Lonkhuyzen, Maurice	31 Bramhall St., Portland
Ventimiglia, William A.	131 State St., Portland
Ward, John V.	131 State St., Portland
Weaver, Michael L.	32 Federal St., Brunswick
Webber, Isaac M.	29 Deering St., Portland
Weeks, DeForest	158 Pleasant Ave., Portland
Wellington, J. Foster	655 Congress St., Portland
White, William J.	1 Mitchell Rd., South Portland
Whittier, Alice A. S.	143 Neal St., Portland
Wight, Donald G.	30 Mitchell Rd., South Portland
Williams, Ralph E.	Main St., Freeport
Woodman, Arthur B.	Falmouth Foreside
Wyman, David S.	47 Deering St., Portland
Zolov, Benjamin	296 Congress St., Portland

HONORARY MEMBERS

Barker, Nathaniel B. T.	1 South St., Yarmouth
Bradford, William H.	133 Coyle St., Portland
Brown, Luther A.	13 Deering St., Portland
Cragin, Charles L.	831 Congress St., Portland
Foster, Albert D.	Bay Shore Drive, Falmouth Foreside
Jamieson, James G. S.	(No address)
Moore, Roland B.	201 State St., Portland

SENIOR MEMBERS

Carmichael, Frank E.	72 Deering St., Portland
Fogg, C. Eugene	35 Deering St., Portland
Foster, Thomas A.	131 State St., Portland
Leighton, Adam P.	142 High St., Portland
Melnick, Jacob	333 Congress St., Portland
Moulton, Albert W.	180 State St., Portland
Patterson, James	1 Bay Rd., South Portland
Richardson, C. Earle	3 Cumberland St., Brunswick
Robinson, Carl M.	Waites Landing, R. 99, Portland
Webber, M. Carroll	735 Stevens Ave., Portland

AFFILIATE MEMBERS

Rowe, Daniel M.	Kirkwood Rd., Scarborough Beach
Thaxter, Langdon T.	Route 100, Portland

FRANKLIN COUNTY

President—Wallace H. Duffy, M.D.
Secretary-Treasurer—Paul E. Floyd, M.D.

ACTIVE MEMBERS

Bowne, Hays G.	9A Main St., Farmington
Brinkman, Harry	47 Perham St., Farmington
Chase, Philip B.	36 Main St., Farmington
Colley, Maynard B.	Main St., Wilton
Covert, Stanley B.	Kingfield
Duffy, Wallace H.	100 Main St., Farmington
Eastman, Charles W.	18 Millet St., Livermore Falls
Fichtner, Paul A.	6 Pleasant St., Rangeley
Floyd, Paul E.	2 Middle St., Farmington
Marsters, David W.	Strong
Martin, Joseph E.	23 Water St., Livermore Falls
Moulton, John H.	Rangeley
Reed, James W.	18 Main St., Farmington
Rowe, Gunther H.	42 Main St., Livermore Falls
Thompson, Cecil F.	Dodge Rd., Phillips
Weymouth, Currier C.	83 Main St., Farmington
Zikel, Herbert M.	High St., Wilton

HONORARY MEMBERS

Pratt, George L.	7 Main St., Farmington
White, Verdeil O.	North Jay

HANCOCK COUNTY

President—William C. Luther, M.D.
Secretary-Treasurer—Russell G. Williamson, M.D.

ACTIVE MEMBERS

Babcock, Harold S.	Castine
Bliss, Raymond V. N.	P. O. Box 361, Blue Hill
Cameron, Dwight	Rockend Rd., Northeast Harbor
Coffin, Ernest L.	Northeast Harbor
Coffin, Silas A.	39 High St., Bar Harbor
Cooper, Llewellyn W.	194 Main St., Bar Harbor
Crowe, James H.	121 Main St., Ellsworth
Gray, Philip L.	Blue Hill
Herbert, Walter W.	Eastern Memorial Hospital, Ellsworth
Hsu, Theodore S.	14 High St., Ellsworth
Jennings, Richard K.	Main St., Southwest Harbor
Joost, Arthur M., Jr.	P. O. Box B, Bucksport
Knickerbocker, Charles H.	15 High St., Bar Harbor
Kopfmann, Harry	Deer Isle
Larrabee, Charles F.	48 Mt. Desert St., Bar Harbor
Luther, William C.	West Sullivan
Millstein, Hyman	Southwest Harbor
O'Meara, Edward S.	Eastern Memorial Hospital, Ellsworth
Russell, Robert F.	Penobscot
Sanger, George M.	Eastern Memorial Hospital, Ellsworth
Suyama, Eji	78 W. Main St., Ellsworth
Thegen, W. Edward	Elm St., Bucksport
Torrey, Marcus A.	75 State St., Ellsworth
Weymouth, Raymond E.	194 Main St., Bar Harbor
Wilbur, Herbert T., Jr.	Southwest Harbor
Williamson, Russell G.	Blue Hill Memorial Hospital, Blue Hill

SENIOR MEMBERS

Knowlton, Charles C.	Ellsworth
Parcher, George	75 Main St., Ellsworth

MILITARY SERVICE

Black, Paul E. (Capt.) MC USN	Naval Air Station, Brunswick

KENNEBEC COUNTY

President—Howard H. Milliken, M.D.
Secretary-Treasurer—Arch H. Morrell, M.D.

ACTIVE MEMBERS

Ashley, Alta	District III, Health Office, Augusta
Barnard, John M. H.	21 Western Ave., Augusta

Bauman, Clair S.	159 Silver St., Waterville
Beckerman, Stanley C.	82 Elm St., Waterville
Betts, Anthony	2 School St., Waterville
Bourassa, Harvey J.	15 Silver St., Waterville
Brann, Henry A.	31 Western Ave., Augusta
Breard, J. Alfred	15 Summer St., Waterville
Bull, Frank B.	72 Church St., Gardiner
Canal, Ory D.	Augusta State Hospital, Augusta
Chasse, Richard L.	173 Main St., Waterville
Cook, Aaron	23 High St., Waterville
Crawford, Joseph R.	105 Water St., Augusta
Dachslager, Philip	21 Western Ave., Augusta
Darlington, Brinton T.	Westwood Rd., Augusta
Davis, Earle M.	34 Gilman St., Waterville
Denison, John D.	105 Brunswick Ave., Gardiner
Dennis, Richard H.	33 College Ave., Waterville
Dore, Clarence E.	2 School St., Waterville
Dunn, Robert H.	Veterans Administration, Togus
Emanuel, Meyer	Veterans Administration, Togus
English, Lena M.	Veterans Administration, Togus
Ervin, Edmund N.	2 School St., Waterville
Eves, John H.	Thayer Hospital, Waterville
Fallon, Richard N.	21 Western Ave., Augusta
Fay, Thomas F.	98 Winthrop St., Augusta
Fisher, Dean H.	State House, Augusta
Fisher, Samson	173 Main St., Waterville
Giddings, Paul D.	31 Western Ave., Augusta
Giesen, Joseph H.	34 Gilman St., Waterville
Gingras, Adolphe J.	99 Water St., Augusta
Gingras, Napoleon J.	6 East Chestnut St., Augusta
Goodof, Irving I.	Thayer Hospital, Waterville
Goodrich, Blynn O.	165 Main St., Waterville
Gould, George I.	79 Main St., Richmond
Guite, L. Armand	45 Elm St., Waterville
Harlow, Edwin W.	177 Main St., Waterville
Hecht, Henry	326 Stevens Ave., Portland
Herring, Leon D.	1 Western Ave., Winthrop
Hill, Frederick T.	Thayer Hospital Waterville
Hill, Howard F.	33 College Ave., Waterville
Hirschberger, Celia	44 Main St., Waterville
Hornberger, H. Richard	2 School St., Waterville
Hurd, Allan C.	72 Church St., Gardiner
Jackler, Jacob M.	14 Gilman St., Waterville
Kagan, Samuel H.	283 Water St., Augusta
Langer, Ella	State House, Augusta
Lepore, Anthony E.	72 Church St., Gardiner
Lubell, Moses F.	Thayer Hospital, Waterville
Marshall, Joseph A.	177 Main St., Waterville
Mathews, Hugh J., Jr.	345 Water St., Gardiner
Melendy, Oakley A.	21 Western Ave., Augusta
Michaud, Joseph C.	76 Main St., Waterville
Milliken, Howard H.	105 Second St., Hallowell
Moore, Valentine J.	Thayer Hospital, Waterville
Morrell, Arch H.	67 Sewall St., Augusta
Murphy, Norman B.	31 Western Ave., Augusta
McLaughlin, Clarence R.	345 Water St., Gardiner
McLaughlin, Ivan E.	345 Water St., Gardiner
McQuillan, Arthur H.	177 Main St., Waterville
McWethy, Wilson H.	31 Western Ave., Augusta
O'Connor, Francis J.	4 Woodlawn St., Augusta
Ohler, Robert L.	Veterans Administration, Togus
Pfeiffer, Paul H.	14 Gilman St., Waterville
Plimpton, Jay R.	283 Water St., Augusta
Pomerleau, Ovid F.	177 Main St., Waterville
Pomerleau, Rodolphe . F.	27 Main St., Waterville
Poulin, Albert A.	Sisters' Hospital, Waterville
Poulin, James E.	177 Main St., Waterville
Pratt, Loring W.	177 Main St., Waterville
Provost, Helen C.	48 Green St., Augusta
Provost, Pierre E.	48 Green St., Augusta
Reel, John J.	59 So. Front St., Richmond
Reynolds, John F.	216 Main St., Waterville
Richards, Lee W., Jr.	21 Western Ave., Augusta
Robertson, George J.	33 College Ave., Waterville
Runyon, William N.	283 Water St., Augusta
Sanders, Stephen W.	120 Main St., Winthrop
Saunders, Allen I.	State Hospital, Augusta
Schmidt, Lorrimer M.	Veterans Administration, Togus
Sewall. Kenneth W.	2 School St., Waterville
Shelton, M. Tieche	21 Western Ave., Augusta
Shippee, James N.	122 Main St., Winthrop
Simpson, Margaret R.	Bur. of Health, State House, Augusta
Sleeper, Francis H.	Box 724, State Hospital, Augusta
Smith, Kenneth E.	Veterans Administration, Togus
Sommerfeld, Kurt A.	5 Brunswick Ave., Gardiner
Southern, Edward M.	34 Gilman St., Waterville
Spellman, Francis A.	Veterans Administration, Togus
Stinchfield, Allan J.	16 E. Chestnut St., Augusta
Sturtevant, Vaughn R.	33 College Ave.,Waterville
Tashiro, Sabro	U. S. Veterans Administration Hospital, Batavia, N. Y.
Towne, Charles E.	18 Common St., Waterville
Valentine, John B.	49 Lincoln Ave., Gardiner
Wilson, Robert W.	Veterans Administration, Togus

HONORARY MEMBERS

Bisson, Napoleon	86 Silver St., Waterville
Mitchell, Roscoe L.	97 Water St., Hallowell
McCoy, Thomas C.	17 College Ave., Waterville
McKay, Roland L.	57 Eastern Ave., Augusta
Newcomb, Charles H.	Clinton
Priest, Maurice A.	108 South Stone St., Deland, Fla.
Risley, Edward H.	27 College Ave., Waterville
Shannon, Charles E. G.	9 Park St., Waterville
Turner, Oliver W.	42-71 78th St., Elmhurst 73, Long Island, N. Y.
Williams, Edmund P.	Oakland

SENIOR MEMBERS

Crawford, Albert S.	Box 414, Togus
Marquardt, Matthais	P. O. Box 724, State Hospital, Augusta
Reynolds, Ralph L.	216 Main St., Waterville

KNOX COUNTY

President—David V. Mann, M.D.
Secretary-Treasurer—Parker Heath, Jr., M.D.

ACTIVE MEMBERS

Allen, Robert L.	22 White St., Rockland
Apollonio, Howard L.	22 White St., Rockland
Brouwer, Johan	56 Talbot St., Rockland
Dennison, Frederick C.	52 Main St., Thomaston
Earle, Ralph P.	Vinalhaven
Eddy, Robert H.	23A Summer St., Rockland
Frost, Harold M.	Friendship
Fuller, Barbara L.	20 Chestnut St., Rockland
Hawkins, Donald B.	Atlantic and Sea Sts., Camden
Heath, Parker, Jr.	22 White St., Rockland
Hochschild, Hugo	33 Main St., Thomaston
Jameson, C. Harold	Medical Arts Building, Rockland
Jones, Paul A.	Union
Kibbe, Frank W.	22 White St., Rockland
King, Merrill J.	22 White St., Rockland
King, Merrill J., Jr.	22 White St., Rockland
Lawry, Oram R., Jr.	96 Limerock St., Rockland
Loewenstein, George	Summer—Chebeague Island Winter—Aripeka, Florida
Mann, David V.	47 Chestnut St., Camden
Millington, Paul A.	44 Mountain St., Camden
Morse, Edward K.	22 White St., Rockland
McLellan, William A.	87 Chestnut St., Camden
Onat, Mustafa V.	Main St., Port Clyde
Shields, Victor H.	North Haven
Soule, Gilmore W.	22 White St., Rockland
Tounge, Harry G., Jr.	12 Union St., Camden
Wasgatt, Wesley N.	41 Talbot Ave., Rockland
Waterman, Richard	Main St., Waldoboro
Worthing, Verla E.	Box A, Thomaston

HONORARY MEMBERS

Hall, Walter D.	407 Main St., Rockland
Leach, Charles H.	Tenants Harbor

SENIOR MEMBER

Campbell, Fred G.	P. O. Box 484, Warren

AFFILIATE MEMBERS

Platt, Anna — Rockport
Winter—110 Manatee Rd., Belleair, Clearwater, Fla.
Waterman, Dorothy — Waldoboro

JUNIOR MEMBER

Brown, Donald H. — Rt. 1, Box 166AA, Ukiah, Calif.

LINCOLN-SAGADAHOC COUNTY

President—Stanley R. Lenfest, M.D.
Secretary-Treasurer—George W. Bostwick, M.D.

ACTIVE MEMBERS

Akar, Hamdi — 17 Grove St., Bath
Andrews, John F. — 20 West St., Boothbay Harbor
Belknap, Samuel L. — Damariscotta
Bostwick, George W. — Route 1, River St., Newcastle
Clark, Richard I. — 858 Washington St., Bath
Doble, Miriam — 990 Washington St., Bath
Dougherty, John F. — 112 Front St., Bath
Gregory, Philip O., St. Andrews Hospital, Boothbay Harbor
Hamilton, Virginia C. — 900 Washington St., Bath
Hutchins, Deane L. — 69 Townsend Ave., Boothbay Harbor
Kinder, Edward L., Jr. — 1027 Washington St., Bath
Lenfest, Stanley R. — Waldoboro
Nichols, Arthur A. — Edgecomb
Powell, Ralph C. — Damariscotta
Proctor, Thomas E. — Boothbay Harbor
Sampson, Arthur H. — Main St., Damariscotta
Schubert, Everett D. — Federal St., Wiscasset
Smith, Jacob — 118 Front St., Bath
Smith, Joseph I. — 118 Front St., Bath
Tracy, Mary J. — Bristol St., Damariscotta
Westermeyer, Marion W. — 858 Washington St., Bath
Wilson, Harry M. — 944 Middle St., Bath
Winchenbach, Francis A. — 910 Washington St., Bath

HONORARY MEMBERS

Barrows, Harris C. — 5 Oak St., Boothbay Harbor
Day, DeForest S. — Wiscasset
Kershner, Warren E. — 57 Green St., Bath
Morin, Harry F. — 905 Middle St., Bath
O'Crowley, Clarence R. — South Bristol
Stott, Ardenne A. — 117 Front St., Bath

SENIOR MEMBERS

Bousfield, Cyril E. — Woolwich
Desjardins, Arthur U. — South Bristol
Stetson, Rufus E. — Damariscotta

OXFORD COUNTY

President—Norman M. Jackson, M.D.
Secretary-Treasurer—Harry L. Harper, M.D.

ACTIVE MEMBERS

Akerberg, Ake — 10 Maple St., South Paris
Aucoin, Peter B. — 89 Congress St., Rumford
Broughton, David S. — 18 Hartford St., Rumford
Defoe, Garfield G. — Dixfield
Dixon, Walter G. — 16 Deering St., Norway
Elsemore, Dexter E. — 11 Main St., Dixfield
Harper, Harry L. — 17 Main St., South Paris
Howard, Henry M. — 105 Franklin St., Rumford
Hubbard, Roswell E. — Waterford
Jackson, Norman M. — 89 Congress St., Rumford
Kadi, Francis J. — Bangor State Hospital, Bangor
Kay, Edwin — 31 Frye St., Lewiston
Lanni, John P. — Paradise Rd., Bethel
MacDougall, James A. — 303 Penobscot St., Rumford
Miller, George W. — Norway National Bank Building, Norway
Moore, Beryl M. — Oxford
McCormack, Roland L. — 12 Bridge St., Norway
Nangle, Thomas P. — West Paris
Noyes, H. Louella — 114 Congress St., Rumford
Oestrich, Alfred — 20 Congress St., Rumford
Perkins, Niles L., Jr. — Oxford Paper Co., Rumford
Rowe, Linwood M. — 11 Franklin St., Rumford
Royal, Albert P., Jr. — 82 Maine Ave., Rumford

HONORARY MEMBERS

Greene, John A. — 96 Congress St., Rumford
Pearson, Henry — Brownfield
Stewart, Delbert M. — 15 Main St., South Paris

SENIOR MEMBERS

Adams, Lester — 9 Knox St., Thomaston
Nelson, Chesley W. — 121 Main St., Norway
Stanwood, Harold W. — 23 Walker St., South Paris

AFFILIATE MEMBER

Mills, Nathaniel — Harrison

MILITARY SERVICE

Boynton, Williard H. USOM/H&S Div., Box 32, Navy 150, C/O FPO, San Francisco, California

PENOBSCOT COUNTY

President—J. Robert Feeley, M.D.
Secretary—Warren G. Strout, M.D.
Treasurer—Dexter J. Clough, 2nd, M.D.

ACTIVE MEMBERS

Adams, Asa C. — 68 Main St., Orono
Adams, Winford C. — 255 North Main St., Brewer
Ames, Forrest B. — 255 Hammond St., Bangor
Babcock, Albert L. — 92 Essex St., Bangor
Babcock, Edward B. — 115 Wilson St., Brewer
Barrett, Robert J., Jr. — 209 State St., Bangor
Blackburn, Nelson P. — 489 State St., Bangor
Blaisdell, Carl E. — 47 Broadway, Bangor
Blaisdell, William B., Jr. — 47 Broadway, Bangor
Bridges, Donald E. — 263 State St., Bangor
Brown, Eugene E. — 57 Summit Ave., Bangor
Brown, Lloyd — 316 State St., Bangor
Burke, John E. — 268 State St., Bangor
Burke, Paul W. — 5 High St., Newport
Butler, Harry — 77 Broadway, Bangor
Butterfield, Wilfred I. — 119 Main St., Lincoln
Chason, Sidney — 173 Pine St., Bangor
Clement, James D., Jr. — 77 Essex St., Bangor
Clough, Dexter J., 2nd — 224 State St., Bangor
Cornell, Robert C. — 78 State St., Bangor
Coulton, Donald — 326 State St., Bangor
Curran, Edward L. — 209 State St., Bangor
Cutler, Lawrence M. — 31 Grove St., Bangor
Desjardins, Richard F. — 240 Penobscot Ave., Millinocket
Dietrich, Mary M. — P. O. Box 3, Orrington
Duffey, Richard V. — 255 N. Main St., Brewer
Dunham, Rand A. — P. O. Box 68, East Millinocket
Dwyer, Clement S. — 205 French St., Bangor
Emerson, W. Merritt — 131 State St., Bangor
Emery, Frederick C. — 242 Cedar St., Bangor
Feeley, J. Robert — 316 State St., Bangor
Fergus, Andrew — 128 Broadway, Bangor
Gaillard, Richard A. — 268 State St., Bangor
Gilman, Herbert C. — 240 Penobscot Ave., Millinocket
Gloor, Robert F. — Box 197, Corinna
Hall, Walter L. H. — 130 Middle St., Old Town
Hamlin, Irvin E. — Main St., East Millinocket
Hill, Allison K. — 113 Somerset St., Bangor
Horton, George H. — 247 Hammond St., Bangor
Houlihan, John S. — 209 State St., Bangor
Hughes, Robert J. — 54 Penobscot St., Bangor
Irwin, Carl W. — 262 State St., Bangor
Kellogg, Robert O. — 316 State St., Bangor
Leddy, Percy A. — Dir., Student Health Dept., Univ. of Maine, Orono
Lezberg, Joseph — 33 Beecher Park, Bangor
Lieberman, Arthur N. — 180 Broadway, Bangor
Macdonald, Donald F. — 263 State St., Bangor
Manter, Wilbur B. — 1 Fern St., Bangor
Mason, Peter H. — Millinocket Community Hospital, Millinocket
Memmelaar, Joseph E. — 54 Forest Ave., Bangor
Merrill, Urban H. — 13 Water St., Newport
Miragliuolo, Leonard G. — 10 Maple St., Bangor
Moulton, Gardner N. — 5 Grove St., Bangor

Munce, Richard T.	262 State St., Bangor
McEvoy, Charles D., Jr.	316 State St., Bangor
McNamara, Wesley C.	8 Lee St., Lincoln
McQuoid, Robert M.	39 Columbia St., Bangor
Nesin, Bourcard	10 Water St., Howland
O'Kane, Francis R.	122 Penobscot Ave., Millinocket
Osler, Jay K.	74 Birch St., Bangor
Palmer, Thomas H., Jr.	316 State St., Bangor
Parrot, Hadley	74 Somerset St., Bangor
Pearson, John J.	100 S. Main St., Old Town
Pooler, Harold A.	Bangor State Hospital, Bangor
Porter, Edward C.	489 State St., Bangor
Purinton, William A.	15 Ohio St., Bangor
Radebaugh, John F., Jr.	81 Parkview Ave., Bangor
Ridlon, Magnus F.	99 Broadway, Bangor
Ruhlin, Carl W.	205 French St., Bangor
Scribner, Herbert C.	259 Union St., Bangor
Sewall, Elmer M.	14 Park St., Orono
Shapero, Benjamin L.	73 Broadway, Bangor
Shubert, Alice J.	317 State St., Bangor
Shubert, William M.	317 State St., Bangor
Shurman, Hans	10 Spring St., Dexter
Skinner, Peter S.	112 Ohio St., Bangor
Smith, Hugh A.	Eastern Maine General Hospital, Bangor
Strout, Warren G.	205 French St., Bangor
Sullivan, John R.	340 North Main St., Brewer
Taylor, H. Lewis	25 Church St., Dexter
Telfeian, Alphonse	47 Morse St., Portland
Thomas, Philip B.	205 French St., Bangor
Todd, Albert C.	410 South Main St., Brewer
Trowbridge, Mason, Jr.	142 Pine St., Bangor
Van Duyn, John	205 French St., Bangor
Vickers, Martyn A.	268 State St., Bangor
Wadsworth, Richard C.	489 State St., Bangor
Wagner, Samuel L.	Winterport
Walker, George R.	Main St., East Corinth
Weed, Laura B.	Eastern Maine General Hospital, Bangor
Weed, Lawrence L.	Eastern Maine General Hospital, Bangor
Weisz, Hans	196 Main St., Lincoln
Whitney, Byron V.	280 State St., Bangor
Whitworth, John E.	116 Hammond St., Bangor
Wood, George W., III	156 No. Main St., Brewer
Woodcock, Allan	35 Second St., Bangor
Woodcock, John A.	35 Second St., Bangor

HONORARY MEMBERS

Craig, Allan	41 E. 42nd St., New York 17, N. Y.
Hedin, Carl J.	Penobscot Terrace, Brewer
Mason, Luther S.	109 State St., Bangor
Purinton, Watson S.	15 Ohio St., Bangor
Wright, LaForest J.	Corinna

SENIOR MEMBERS

Devan, Thomas A.	10245 47th Ave., Corona, L. I., N. Y.
Higgins, George I.	15 Water St., Newport
McNeil, Harry D.	81 Silver Rd., Bangor
Weatherbee, George B.	Main St., Hampden

AFFILIATE MEMBERS

DeWitt, James C.	R.F.D. No. 2, Ellsworth
Knowlton, Henry C.	245 Center St., Bangor
Theriault, Louis L.	197 Center St., Old Town

MILITARY SERVICE

Clough, Herbert T., Jr., (Lt. Col.) MC USAF 21st Tactical Hospital, APO 247, c/o P.M. New York, N. Y.

PISCATAQUIS COUNTY

President—James H. Johnson, Jr., M.D.
Secretary-Treasurer—Linus J. Stitham, M.D.

ACTIVE MEMBERS

Bradbury, Francis W.	16 E. Main St., Dover-Foxcroft
Carde, Albert M.	33 Elm St., Milo
Curtis, John B.	10 High St., Milo
Howard, George C.	Oak St., Guilford
Johnson, James H., Jr.	36 Elm St., Milo
Lightbody, Charles H.	No. Main St., Guilford
Nelson, Isaac	1925 Quentin Rd., Brooklyn 29, N. Y.
Nickerson, Norman H.	Greenville
Stanhope, Charles N.	Dover-Foxcroft
Stitham, Linus J.	50 Main St., Dover-Foxcroft
Stuart, Ralph C.	Guilford

HONORARY MEMBERS

MacDougal, Wilbur E.	186 Nowell Rd., Bangor
Pritham, Fred J.	Greenville Junction

AFFILIATE MEMBER

Bundy, Harvey C. — Milo

SOMERSET COUNTY

President—Richard P. Laney, M.D.
Secretary-Treasurer—Harland G. Turner, M.D.

ACTIVE MEMBERS

Amrein, H. Carl	29 Weston Ave., Madison
Ball, Franklin P.	Bingham
Bernard, Albert J.	198 Madison Ave., Skowhegan
Briggs, Paul R.	Hartland
Greenlaw, William A.	129 Main St., Fairfield
Grow, William B.	Central Maine Sanatorium, Fairfield
Jordan, W. Edward, Jr.	68 Water St., Skowhegan
Klutzow, Friedrich W.	152 Main St., Madison
Laney, Richard P.	50 Water St., Skowhegan
Lord, Edwin M.	39 High St., Skowhegan
Philbrick, Maurice S.	292 Water St., Skowhegan
Reed, Howard L.	68 Water St., Skowhegan
Smith, Edgar J.	1 Park St., Fairfield
Smith, Henry F.	Jackman Station
Sullivan, George E.	RFD 1, Fairfield
Szendey, Andrew M.	26 Gray St., Madison
Turner, Harland G.	RFD 2, Norridgewock
Young, George E.	159 Water St., Skowhegan

HONORARY MEMBERS

Marston, Henry E.	No. Anson
Stinchfield, Walter S.	Court St., Skowhegan

SENIOR MEMBERS

Humphreys, Ernest D.	91 Main St., Pittsfield
Lord, Maurice E.	Dees Cabins, Lake Placid, Florida

WALDO COUNTY

President—Norman E. Cobb, M.D.
Secretary-Treasurer—George L. Temple, M.D.

ACTIVE MEMBERS

Albro, Ward A.	27 Northport Ave., Belfast
Caswell, John A.	16 Waldo Ave., Belfast
Cobb, Norman E.	132 Main St., Belfast
Read, Seth H.	15 Church St., Belfast
Stein, Ernest W.	72 Main St., Pittsfield
Temple, George L.	18 Franklin St., Belfast
Torrey, Raymond L.	Main St., Searsport
Webber, John R.	Dark Harbor

HONORARY MEMBER

Holmes, George W. Waldo County General Hospital, Belfast

SENIOR MEMBERS

Cunningham, Allan R.	R.F.D. 4, Belfast
Small, Foster C.	169 High St., Belfast
Stevens, Carl H.	18 Franklin St., Belfast

WASHINGTON COUNTY

President—Robert G. MacBride, M.D.
Secretary-Treasurer—Karl V. Larson, M.D.

ACTIVE MEMBERS

Bates, James C.	Eastport
French, Rowland B.	16 Water St., Eastport
Jacob, Donald R.	Princeton
Kazutow, John	P. O. Box 24, Ellsworth
Kiel, Joseph B.	Columbia Falls
Larson, Karl V.	East Machias
MacBride, Robert G.	25 Washington St., Lubec
Mitchell, Hazen C.	Calais
Mundie, Perley J.	111 Main St., Calais
Sears, Harold G.	Main St., Woodland
Webber, Samuel R.	Calais
Young, John	Jonesport

SENIOR MEMBERS

Armstrong, Charles M.	Robbinston
Bennet, DaCosta F.	4 Main St., Lubec

YORK COUNTY

President—William B. O'Sullivan, M.D.
Secretary-Treasurer—Charles W. Kinghorn, M.D.

ACTIVE MEMBERS

Anton, Thomas	260 Main St., Biddeford
Bacon, Melvin	257A Main St., Sanford
Barden, Frank W.	Dir., Bureau of Occupational Health, Jefferson City, Missouri
Belmont, Ralph S.	Sanford Trust Co. Building, Sanford
Charest, Leandre R.	314 Alfred St., Biddeford
Cuneo, Kenneth J.	31 Summer St., Kennebunk
Dennett, Carl G.	Saco
Dionne, William E.	109 Main St., Springvale
Downing, J. Robert	35 Summer St., Kennebunk
Drummond, S. Dunton	Bar Mills
Endicott, Ruth E.	16 Main St., Ogunquit
Ficker, Robert F.	Maine St., Kennebunkport
Fortier, Andre P.	68 Foss St., Biddeford
Haas, Carl M.	357 Elm St., Biddeford
Hill, Paul S., Jr.	323 Main St., Saco
Hoffman, Alvin A.	P. O. Box 222, York
Holland, Edward W.	34 Winter St., Sanford
Hopkins, Herbert J.	24 Portland Ave., Old Orchard
Houle, Marcel P.	200 Alfred St., Biddeford
Jellerson, Leon R.	Elm St., North Berwick
Johnston, James S.	York Harbor
LaFond, Robert S.	258 Main St., Saco
Lapirow, Harry	99 Main St., Kennebunk
Leigh, Kenneth E.	163 Court St., Portsmouth, N. H.
Lesieur, Louis C.	66 Beach St., Saco
Lincourt, Armand S.	47 Allen St., Sanford
Macdonald, James H.	103 Main St., Kennebunk
Magaudda, Michael M. P.	39 Old Orchard St., Old Orchard Beach
Magocsi, Alexander W.	York
Mahaney, William F.	338 Main St., Saco
Mazzacane, Walter D.	Old Orchard
Moulton, Marion A. K.	West Newfield
Murphy, John J.	84 Portland St., South Berwick
Myer, John C.	2 School St., Sanford
O'Sullivan, William B.	331 Main St., Saco
Ouellette, Marcel D.	114 Main St., Sanford
Patane, Joseph M.	256 Alfred St., Biddeford
Richards, Carl E.	34 Winter St., Sanford
Robert, Roger J. P.	331 Main St., Saco
Ross, Maurice	372 Main St., Saco
Roussin, William T.	48 Bacon St., Biddeford
Smith, Gerald R.	Ogunquit
Taylor, Paul E.	9 Wentworth St., Kittery
Vachon, Robert D.	34 Winter St., Sanford
Viger, Leopold A.	176 Elm St., Biddeford
Wolfahrt, Eugene P.	338 Main St., Saco

HONORARY MEMBERS

Davis, Ansel S.	Springvale
Head, Owen B.	98 Main St., Sanford
Larochelle, Joseph R.	42 Bacon St., Biddeford
Mayo, Dana B.	Route No. 1, Kennebunkport
Shapleigh, Edward E.	Kittery
Stickney, Laura B.	10 Cutts Ave., Saco
Whitney, Ray L.	Cape Porpoise

SENIOR MEMBERS

Bunker, Willard H.	York Harbor
Cobb, Stephen A.	34 Winter St., Sanford
Kinghorn, Charles W.	4 Wentworth St., Kittery
Ross, H. Danforth	34 Winter St., Sanford

HONORARY MEMBER-AT-LARGE

Locke, Herbert E., Attorney, Augusta

An Alphabetical List of the Members of the Maine Medical Association

* The figures in parentheses refer to County Societies as follows: (1) Androscoggin, (2) Aroostook, (3) Cumberland, (4) Franklin, (5) Hancock, (6) Kennebec, (7) Knox, (8) Lincoln-Sagadahoc, (9) Oxford, (10) Penobscot, (11) Piscataquis, (12) Somerset, (13) Waldo, (14) Washington, (15) York.

A

Adams, Asa C., 68 Main St., Orono (10)
Adams, Lester, 9 Knox St., Thomaston (9)
Adams, Winford C., 255 North Main St., Brewer (10)
Agan, Robert W., 144 State St., Portland (3)
Akar, Hamdi, 17 Grove St., Bath (8)
Akerberg, Ake, 10 Maple St., South Paris (9)
Albert, Armand, 193 Main St., Van Buren (2)
Albert, Joseph L., Fort Kent (2)
Albro, Ward A., 27 Northport Ave., Belfast (13)
Alien, Robert L., 22 White St., Rockland (7)
Ames, Forrest B., 255 Hammond St., Bangor (10)
Amrein, H. Carl, 29 Weston Ave., Madison (12)
Anderson, Donald L., 369 Main St., Lewiston (1)
Andrews, John F., 20 West St., Boothbay Harbor (8)
Ansell, Harvey B., 39 Deering St., Portland (3)
Anton, Thomas, 260 Main St., Biddeford (15)
Apollonio, Howard L., 22 White St., Rockland (7)
Applin, Hilton H., 6 Cumberland St., Brunswick (3)
Aranson, Albert, 39 Deering St., Portland (3)
Armstrong, Charles M., Robbinston (14)
Asali, Louis A., 29 Deering St., Portland (3)
Asherman, Edward G., 31 Deering St., Portland (3)
Ashley, Alta, Dist. III, Health Office, Augusta (6)
Aucoin, Peter B., 89 Congress St., Rumford (9)
Aungst, Melvin R., Morneault Building, Fort Kent (2)

B

Babalian, Leon, 38 Deering St., Portland (3)
Babcock, Albert L., 92 Essex St., Bangor (10)
Babcock, Edward B., 115 Wilson St., Brewer (10)
Babcock, Harold S., Castine (5)
Bachrach, Louis, 16 Union St., Brunswick (3)
Bacon, Melvin, 257A Main St., Sanford (15)
Baird, Charles C., 648 Main St., Haverhill, Mass. (3)
Baldini, Elio, 22 Bramhall St., Portland (3)
Baldwin, Warren C., 42 Deering St., Portland (3)
Ball, Franklin P., Bingham (12)
Barden, Frank W., Dir., Bureau of Occupational Health, Jefferson City, Missouri (15)
Barker, Nathaniel B. T., 1 South St., Yarmouth (3)
Barnard, John M. H., 21 Western Ave., Augusta (6)
Barrett, Robert J., Jr., 209 State St., Bangor (10)
Barrows, Harris C., 5 Oak St., Boothbay Harbor (8)
Bates, James C., Eastport (14)
Bauman, Clair S., 159 Silver St., Waterville (6)
Beaudet, Simon C., 25 Webster St., Lewiston (1)
Beckerman, Stanley C., 82 Elm St., Waterville (6)
Beeaker, Vincent H., 85 Wood St., Lewiston (1)
Beegel, Paul M., 80 Goff St., Auburn (1)
Beliveau, Bertrand A., 56 Howe St., Lewiston (1)
Beliveau, Romeo A., 89 Pine St., Lewiston (1)
Belknap, Samuel L., Damariscotta (8)
Belmont, Ralph S., Sanford Trust Co. Building, Sanford (15)
Bennet, DaCosta F., 4 Main St., Lubec (14)
Bennet, Eben T., 49 Deering St., Portland (3)
Bergmann, Jerome W., 255 Western Promenade, Portland (3)
Bernard, Albert J., 198 Madison Ave., Skowhegan (12)
Bernard, Romeo A., 26 Beacon St., Lewiston (1)
Berrie, Lloyd H., 64 Sweden St., Caribou (2)
Bettle, Ronald A., 32 Federal St., Brunswick (3)
Betts, Anthony, 2 School St., Waterville (6)
Bidwell, Robinson L., 31 Bramhall St., Portland (3)
Bischoffberger, John M., Naples (3)
Bishop, Lloyd W., 211 Vaughan St., Portland (3)
Bisson, Napoleon, 86 Silver St., Waterville (6)
Black, Paul E., Capt., Naval Air Station, Brunswick (5)
Blackburn, Nelson P., 489 State St., Bangor (10)
Blaisdell, Carl E., 47 Broadway, Bangor (10)
Blaisdell, Elton R., 12 Deering St., Portland (3)
Blaisdell, William B., Jr., 47 Broadway, Bangor (10)
Bliss, Raymond V. N., P. O. Box 361, Blue Hill (5)
Boone, Storer W., 429 Main St., Presque Isle (2)
Bostwick, George W., Route 1, River St., Newcastle (8)
Bourassa, Harvey J., 15 Silver St., Waterville (6)
Bousfield, Cyril E., Woolwich (8)
Bowman, Peter W., P. O. Box C, Pownal (3)
Bowne, Hays G., 9A Main St., Farmington (4)
Boynton, Willard H., USOM/H&S Div., Box 32, Navy 150, c/o FPO, San Francisco, California (9)
Bradbury, Francis W., 16 E. Main St., Dover-Foxcroft (11)
Bradford, William H., 133 Coyle St., Portland (3)
Bramhall, Theodore C., 185 Craigie St., Portland (3)
Branch, Charles F., Central Maine General Hospital, Lewiston (1)
Brann, Henry A., 31 Western Ave., Augusta (6)
Branson, Sidney R., 37 Main St., South Windham (3)
Breard, J. Alfred, 15 Summer St., Waterville (6)
Brennan, Thomas V., 555 Main St., Presque Isle (2)
Bridges, Donald E., 263 State St., Bangor (10)
Briggs, Paul R., Hartland (12)
Brien, Maurice, 76 Pine St., Lewiston (1)
Brinkman, Harry, 47 Perham St., Farmington (4)
Broggi, Frank S., 18 Neal St., Portland (3)
Broughton, David S., 18 Hartford St., Rumford (9)
Brouwer, Johan, 56 Talbot Ave., Rockland (7)
Brown, Donald H., Rt. 1, Box 166AA, Ukiah, California (7)
Brown, Eugene E., 57 Summit Ave., Bangor (10)
Brown, Lloyd, 316 State St., Bangor (10)
Brown, Luther A., 13 Deering St., Portland (3)
Brown, Stephen S., Mars Hill (2)
Buker, Edson B., R. F. D. No. 2, Auburn (1)
Bull, Frank B., 72 Church St., Gardiner (6)
Bundy, Harvey C., Milo (11)
Bunker, Willard H., York Harbor (15)
Burke, John E., 268 State St., Bangor (10)
Burke, Paul W., 5 High St., Newport (10)
Burnett, Claude A. Jr., 59 Deering St., Portland (3)
Burr, Charles G., 90 Court St., Houlton (2)
Burrage, William C., 57 Deering St., Portland (3)
Busch, John J., 105 Elm St., Mechanic Falls (1)
Butler, Harry, 77 Broadway, Bangor (10)
Butterfield, Wilfred I., 119 Main St., Lincoln (10)

C

Cameron, Dwight, Rockend Rd., Northeast Harbor (5)
Campbell, Fred G., Box 484, Warren (7)
Canal, Ory D., Augusta State Hospital, Augusta (6)
Capron, Charles W., 22 Bramhall St., Portland (3)
Carde, Albert M., 33 Elm St., Milo (11)
Carmichael, Frank E., 72 Deering St., Portland (3)
Caron, Frederic J., 174 Bates St., Lewiston (1)
Carrier, John W., Central Maine General Hospital, Lewiston (1)
Carter, Loren F., Northern Maine San., Presque Isle (2)
Carton, Arthur K., Market Square, Houlton (2)
Casey, William L., 131 State St., Portland (3)
Caswell, John A., 16 Waldo Ave., Belfast (13)
Chapin, Milan A., 237 Turner St., Auburn (1)
Charest, Leandre R., 314 Alfred St., Biddeford (15)
Chase, Philip B., 36 Main St., Farmington (4)
Chason, Sidney, 173 Pine St., Bangor (10)
Chasse, Richard L., 173 Main St., Waterville (6)
Chatterjee, Manu, 11 McKeen St., Brunswick (3)
Chenery, Frederick L. Jr., Monmouth (1)
Christensen, Harry E., 92 Baxter Blvd., Portland (3)
Clapp, Waldo A., 215 College St., Lewiston (1)
Clapperton, Gilbert, 300 Main St., Lewiston (1)
Clark, Frederick B., 131 State St., Portland (3)

Clark, Richard I., 858 Washington St., Bath (8)
Clarkin, Charles P., 64 Brookside Rd., Portland (3)
Clement, James D., Jr., 77 Essex St., Bangor (10)
Clough, Dexter J., 2nd, 224 State St., Bangor (10)
Clough, Herbert T., Jr., Lt. Col., M. C., USAF, 21st Tactical Hospital, APO 247, c/o P. M., New York, N. Y. (10)
Cloutier, Wilfrid A., 210 Sabattus St., Lewiston (1)
Cobb, Norman E., 132 Main St., Belfast (13)
Cobb, Stephen A., 34 Winter St., Sanford (15)
Coffin, Ernest L., Northeast Harbor (5)
Coffin, Silas A., 39 High St., Bar Harbor (5)
Colby, Edward W., 389 Congress St., Portland (3)
Cole, Donald P., 31 Deering St., Portland (3)
Colley, Maynard B., Main St., Wilton (4)
Collins, H. Douglas, Caribou Clinic, Caribou (2)
Cook, Aaron, 23 High St., Waterville (6)
Cooper, Llewellyn W., 194 Main St., Bar Harbor (5)
Cornell, Robert C., 78 State St., Bangor (10)
Coulton, Donald, 326 State St., Bangor (10)
Covert, Stanley B., Kingfield (4)
Cox, William V., 133 Court St., Auburn (1)
Cragin, Charles L., 831 Congress St., Portland (3)
Craig, Allan, 41 E. 42nd St., New York 17, N. Y. (10)
Crane, Lawrence, 265 Western Promenade, Portland (3)
Crawford, Albert S., Box 414, Togus (6)
Crawford, Joseph R., 105 Water St., Augusta (6)
Crowe, James H., 121 Main St., Ellsworth (5)
Cummings, George O., 47 Deering St., Portland (3)
Cummings, George O., Jr., 47 Deering St., Portland (3)
Cuneo, Kenneth J., 31 Summer St., Kennebunk (15)
Cunningham, Allan R., R.F.D. 4, Belfast (13)
Curran, Edward L., 209 State St., Bangor (10)
Curtis, John B., 10 High St., Milo (11)
Cutler, Lawrence M., 31 Grove St., Bangor (10)

D

Dachslager, Philip, 21 Western Ave., Augusta (6)
Damon, Albert H., Limestone (2)
Daniels, Donald H., R.R. No. 1, Readfield (3)
Darche, Albert A., 782 Main St., Westbrook (3)
Darlington, Brinton T., Westwood Rd., Augusta (6)
Davidson, David, 235 State St., Portland (3)
Davidson, Gisela K., 235 State St., Portland (3)
Davies, Lloyd G., Fryeburg (3)
Davis, Ansel S., Springvale (15)
Davis, Earle M., 34 Gilman St., Waterville (6)
Davis, Harry E., 169 State St., Portland (3)
Davis, Wirt L., 91 Bartlett St., Lewiston (1)
Day, DeForest S., Wiscasset (8)
Defoe, Garfield G., Dixfield (9)
Denison, John D., 105 Brunswick Ave., Gardiner (2)
Dennett, Carl G., Saco (15)
Dennis, Richard H., 33 College Ave., Waterville (6)
Dennison, Frederick C., 52 Main St., Thomaston (7)
Derry, G. Hermann, 690 Congress St., Portland (3)
Desjardins, Arthur U., South Bristol (8)
Desjardins, Richard F., 240 Penobscot Ave., Millinocket (10)
Devan, Thomas A., 10245-47th Ave., Corona, L. I., N. Y. (10)
DeWitt, James C., R.F.D. No. 2, Ellsworth (10)
Dietrich, Mary M., P. O. Box 3, Orrington (10)
Dionne, Maurice J., 26-28 Cumberland St., Brunswick (3)
Dionne, William E., 109 Main St., Springvale (15)
Dixon, Walter G., 16 Deering St., Norway (9)
Doble, Eugene H., 6 Church St., Presque Isle (2)
Doble, Miriam, 990 Washington St., Bath (8)
Donahue, Clement L., 13 Collins St., Caribou (2)
Donahue, Gerald H., 4 Station St., Presque Isle (2)
Donovan, Joseph A., Houlton (2)
Dooley, Francis M., 53 Deering St., Portland (3)
Dore, Clarence E., 2 School St., Waterville (6)
Dore, Kenneth E., 133 Main St., Fryeburg (3)
Dorogi, Louis V., 149 Main St., Freeport (3)
Dorsey, F. Donald, 52 Deering St., Portland (3)
Dougherty, John F., 112 Front St., Bath (8)
Douphinett, Otis J., 763 Congress St., Portland (3)
Downing, J. Robert, 35 Summer St., Kennebunk (15)
Drake, Emerson H., 18 Bramhall St., Portland (3)
Drake, Eugene H., 58 Deering St., Portland (3)
Drummond, S. Dunton, Bar Mills (15)
Duffey, Richard V., 255 North Main St., Brewer (10)
Duffy, Wallace H., 100 Main St., Farmington (4)
DuMais, Alcid F., 125 College St., Lewiston (1)
Dunham, Carl E., 188 State St., Portland (3)
Dunham, Marguerite C., Northern Maine Sanatorium, Presque Isle (2)
Dunham, Rand A., P.O. Box 68, East Millinocket (10)
Dunn, Robert H., Veterans Administration, Togus (6)
Dwyer, Clement S., 205 French St., Bangor (10)
Dycio, George, 55 Broad St., Auburn (1)
Dyhrberg, Norman E., 323 Main St., Cumberland Mills (3)

E

Earle, Ralph P., Vinalhaven (7)
Earnhardt, Joseph B., 55 Stroudwater St., Westbrook (3)
Eastman, Charles W., 18 Millet St., Livermore Falls (4)
Ebbett, Penry L. B., Houlton (2)
Eddy, Robert H., 23A Summer St., Rockland (7)
Elsemore, Dexter E., 11 Main St., Dixfield (9)
Emanuel, Meyer, Veterans Administration, Togus (6)
Emerson, W. Merritt, 131 State St., Bangor (10)
Emery, Frederick C., 242 Cedar St., Bangor (10)
Endicott, Ruth E., 16 Main St., Ogunquit (15)
English, Lena M., Veterans Administration, Togus (6)
Eppinger, Ernest, 52 Belmont St., Portland (3)
Ervin, Edmund N., 2 School St., Waterville (6)
Etscovitz, Eli A., Cary Memorial Hospital, Caribou (2)
Eves, John H., Thayer Hospital, Waterville (6)

F

Fagone, Francis A., 312 Congress St., Portland (3)
Fahey, William J., 17 Frye St., Lewiston (1)
Fallon, Richard N., 21 Western Ave., Augusta (6)
Faucher, Francois J., Grand Isle (2)
Fay, Thomas F., 98 Winthrop St., Augusta (6)
Feeley, J. Robert, 316 State St., Bangor (10)
Fergus, Andrew, 128 Broadway, Bangor (10)
Ferguson, Barbara, 80 Goff St., Auburn (1)
Ferguson, Franklin F., 22 Arsenal St., Portland (3)
Fichtner, Paul A., 6 Pleasant St., Rangeley (4)
Ficker, Robert F., Maine St., Kennebunkport (15)
Finks, Henry B., 73 Deering St., Portland (3)
Fish, Nicholas, 235 State St., Portland (3)
Fisher, Dean H., State House, Augusta (6)
Fisher, Samson, 173 Main St., Waterville (6)
Fishman, Louis N., 327 Main St., Lewiston (1)
Flanders, Merton N., 1 High St., Lewiston (1)
Floyd, Paul E., 2 Middle St., Farmington (4)
Fogg, C. Eugene, 35 Deering St., Portland (3)
Fogg, Philip S., Jr., 27 Deering St., Portland (3)
Fortier, Andre P., 68 Foss St., Biddeford (15)
Fortier, Paul J. B., 70 Pine St., Lewiston (1)
Foster, Albert D., Bay Shore Drive, Falmouth Foreside (3)
Foster, Thomas A., 131 State St., Portland (3)
Fox, Francis H., 83 West St., Portland (3)
Freeman, William E., 107 Main St., Yarmouth (3)
French, Rowland B., 16 Water St., Eastport (14)
Frost, Harold M., Friendship (7)
Frost, Robert A., 93 Summer St., Auburn (1)
Fuller, Barbara L., 20 Chestnut St., Rockland (7)

G

Gabrielson, Robert M., Caribou Clinic Bldg., Caribou (2)
Gaillard, Richard A., 268 State St., Bangor (10)
Gates, Clifford W., Flaggy Meadow Rd., Gorham (3)
Gauvreau, Horace L., 82 Pine St., Lewiston (1)
Geer, Charles R., 690 Congress St., Portland (3)
Geer, George L., Jr., 690 Congress St., Portland (3)
Getchell, Ralph A., 690 Congress St., Portland (3)
Geyerhahn, George, 73 Deering St., Portland (3)
Gibbons, John F., 22 Arsenal St., Portland (3)
Gibeison, Raymond G., Major, 555 Main St., Presque Isle (2)
Giddings, Paul D., 31 Western Ave., Augusta (6)
Giesen, Joseph H., 34 Gilman St., Waterville (6)
Giguere, Eustache N., 90 Webster St., Lewiston (1)
Gilman, Herbert C., 240 Penobscot Ave., Millinocket (10)
Gingras, Adolphe J., 99 Water St., Augusta (6)

Gingras, Napoleon J., 6 East Chestnut St., Augusta (6)
Glassmire, Charles R., 58 Deering St., Portland (3)
Gloor, Robert F., Box 197, Corinna (10)
Goduti, Richard J., 704 Congress St., Portland (3)
Goldman, Morris E., 524 Main St., Lewiston (1)
Good, Philip G., 38 Deering St., Portland (3)
Goodof, Irving I., Thayer Hospital, Waterville (6)
Goodrich, Blynn O., 165 Main St., Waterville (6)
Goodwin, Ralph A., 56 Denison St., Auburn (1)
Goodwin, Ralph A., Jr., 33 Court St., Auburn (1)
Gordon, Charles H., 67 Beacon St., Portland (3)
Gormley, Eugene G., Market Square, Houlton (2)
Gould, George I., 79 Main St., Richmond (6)
Graves, Robert A., 3 Green St., Fort Fairfield (2)
Gray, Philip L., Blue Hill (5)
Greco, Edward A., 12 Pine St., Portland (3)
Green, Ross W., 33 Court St., Auburn (1)
Greene, John A., 96 Congress St., Rumford (9)
Greene, John P., 19 Sabattus St., Lewiston (1)
Greene, Merrill S. F., 466 Main St., Lewiston (1)
Greenlaw, William A., 129 Main St., Fairfield (12)
Gregory, Frederick J., 16 High St., Caribou (2)
Gregory, Philip O., St. Andrews Hospital, Boothbay Harbor (8)
Griffiths, Eugene B., 429 Main St., Presque Isle (2)
Gross, Leroy C., 19 Goff St., Auburn (1)
Grow, William B., Central Maine Sanitorium, Fairfield (12)
Guite, L. Armand, 45 Elm St., Waterville (6)

H

Haas, Carl M., 357 Elm St., Biddeford (15)
Haas, Rudolph, 488 Main St., Lewiston (1)
Hall, Walter D., 407 Main St., Rockland (7)
Hall, Walter L. H., 130 Middle St., Old Town (10)
Hallett, George W., Jr., 131 State St., Portland (3)
Hamel, John R., 50 Deering St., Portland (3)
Hamilton, Virginia C., 900 Washington St., Bath (8)
Hamlin, Irvin E., Main St., East Millinocket (10)
Hanley, Daniel F., 58 Federal St., Brunswick (3)
Hannigan, Charles A., 85 Goff St., Auburn (1)
Hannigan, Margaret H., 85 Goff St., Auburn (1)
Hanson, Henry W., Jr., Cumberland Center (3)
Harkins, Michael J., 437 Main St., Lewiston (1)
Harlow, Edwin W., 177 Main St., Waterville (6)
Harper, Harry L., 17 Main St., South Paris (9)
Harrison, George J., Market Sq., Houlton (2)
Harvey, Thomas G., 46 So. Main St., Caribou (2)
Hawkes, Richard S., 47 Deering St., Portland (3)
Hawkins, Donald B., Atlantic and Sea Sts., Camden (7)
Hayward, I. Mead, 18 Sweden St., Caribou (2)
Head, Owen B., 98 Main St., Sanford (15)
Heath, Parker, Jr., 22 White St., Rockland (7)
Hecht, Henry, 326 Stevens Ave., Portland (6)
Hedin, Carl J., Penobscot Terrace, Brewer (10)
Heifetz, Ralph, 173 State St., Portland (3)
Helfrich, Harry M., Jr., 555 Main St., Presque Isle (2)
Helfrich, Nancy R., 555 Main St., Presque Isle (2)
Herbert, Walter W., Eastern Memorial Hospital, Ellsworth (5)
Herrick, Stanley E., Jr., 12 Deering St., Portland (3)
Herring, Leon D., 1 Western Ave., Winthrop (6)
Herson, Joseph H., Main St., Patten (2)
Hiebert, Joelle C., Jr., 369 Main St., Lewiston (1)
Higgins, Everett C., 149 College St., Lewiston (1)
Higgins, George I., 15 Water St., Newport (10)
Hill, Allison K., 113 Somerset St., Bangor (10)
Hill, Douglas R., 855 Sawyer St., South Portland (3)
Hill, Frederick T., Thayer Hospital, Waterville (6)
Hill, Howard, F., 33 College Ave., Waterville (6)
Hill, Paul S., Jr., 323 Main St., Saco (15)
Hinckley, Harris, 331 Cottage Rd., South Portland (3)
Hirschberger, Celia, 44 Main St., Waterville (6)
Hirshler, Max, 25 Bardwell St., Lewiston (1)
Hochschild, Hugo, 33 Main St., Thomaston (7)
Hoffman, Alvin A., P. O. Box 222, York (15)
Hogan, Chester F., 62 Main St., Houlton (2)
Holland, Edward W., 34 Winter St., Sanford (15)
Holmes, George W., Waldo County General Hospital, Belfast (13)
Holt, C. Lawrence, 27 Deering St., Portland (3)
Hopkins, Herbert J., 24 Portland Ave., Old Orchard (15)
Hornberger, H. Richard, 2 School St., Waterville (6)
Horsman, Donald H., 50 Goff St., Auburn (1)
Horton, George H., 247 Hammond St., Bangor (10)
Houle, Marcel P., 200 Alfred St., Biddeford (15)
Houlihan, John S., 209 State St., Bangor (10)
Howard, George C., Oak St., Guilford (11)
Howard, Henry M., 105 Franklin St., Rumford (9)
Hsu, Theodore S., 14 High St., Ellsworth (5)
Hubbard, Roswell E., Waterford (9)
Hudson, Henry A., 11 Gage St., Bridgton (3)
Huggard, Leslie H., 29 Huggard Ave., Limestone (2)
Hughes, Robert J., 54 Penobscot St., Bangor (10)
Humphreys, Ernest D., 91 Main St., Pittsfield (12)
Huntress, Roderick L., 988 Sawyer St., South Portland (3)
Hurd, Allan C., 72 Church St., Gardiner (6)
Hutchins, Deane L., 69 Townsend Ave., Boothbay Harbor (8)

I

Irwin, Carl W., 262 State St., Bangor (10)
Ives, Howard R., 31 Deering St., Portland (3)

J

Jackler, Jacob M., 14 Gilman St., Waterville (6)
Jackson, Norman M., 89 Congress St., Rumford (9)
Jacob, Donald R., Princeton (14)
Jacobson, Payson B., 295 Brighton Ave., Portland (3)
James, Chakmakis, 47 Howe St., Lewiston (1)
James, John A., 117 Goff St., Auburn (1)
Jameson, C. Harold, Medical Arts Building, Rockland (7)
Jamieson, James G. S., (No address) (3)
Jellerson, Leon R., Elm St., North Berwick (15)
Jennings, Richard K., Main St., Southwest Harbor (5)
Johnson, Albert C., 45 Deering St., Portland (3)
Johnson, Gordon N., P. O. Box 86, Houlton (2)
Johnson, Henry P., 32 Deering St., Portland (3)
Johnson, James H., Jr., 36 Elm St., Milo (11)
Johnson, Oscar R., 18 Deering St., Portland (3)
Johnston, James S., York Harbor (15)
Jones, Paul A., Union (7)
Joost, Arthur M., Jr., P. O. Box B, Bucksport (5)
Jordan, W. Edward, Jr., 68 Water St., Skowhegan (12)
Junda, Rudolph, 85 Pine Ridge Rd., Newton, Mass. (2)

K

Kadi, Francis J., Bangor State Hospital, Bangor (9)
Kagan, Samuel H., 283 Water St., Augusta (6)
Kay, Edwin, 31 Frye St., Lewiston (9)
Kazutow, John, P. O. Box 24, Ellsworth (14)
Kellogg, Robert O., 316 State St., Bangor (10)
Kershner, Warren E., 57 Green St., Bath (8)
Kibbe, Frank W., 22 White St., Rockland (7)
Kiel, Joseph B., Columbia Falls (14)
Kimball, Herrick C., P. O. Box 372, Fort Fairfield (2)
Kinder, Edward L., Jr., 1027 Washington St., Bath (8)
King, Merrill J., 22 White St., Rockland (7)
King, Merrill J., Jr., 22 White St., Rockland (7)
Kinghorn, Charles W., 4 Wentworth St., Kittery (15)
Kirk, William V., Eagle Lake (2)
Klutzow, Friedrich W., 152 Main St., Madison (12)
Knickerbocker, Charles H., 15 High St., Bar Harbor (5)
Knowlton, Charles C., Ellsworth (5)
Knowlton, Henry C., 245 Center St., Bangor (10)
Konecki, John T., St. Mary's Hospital, Lewiston (1)
Kopfmann, Harry, Deer Isle (5)
Kramer, Henry F., Caribou Clinic, Caribou (2)

L

Labbe, Onil B., Van Buren (2)
LaFlamme, Paul J., 78 Pine St., Lewiston (1)
LaFond, Robert S., 258 Main St., Saco (15)
Laney, Richard P., 50 Water St., Skowhegan (12)
Langer, Ella, State House, Augusta (6)
Lanni, John P., Paradise Rd., Bethel (9)

Lape, C. Philip, 131 Chadwick St., Portland (3)
Lapirow, Harry, 99 Main St., Kennebunk (15)
Lappin, John J., 171 State St., Portland (3)
Larochelle, Joseph R., 42 Bacon St., Biddeford (15)
Larrabee, Charles F., 48 Mt. Desert St., Bar Harbor (5)
Larson, Karl V., East Machias (14)
Laughlin, K. Alexander, 201 State St., Portland (3)
Lawry, Oram R., Jr., 96 Limerock St., Rockland (7)
Leach, Charles H., Tenants Harbor (7)
Leary, Gerald C., 144 State St., Portland (3)
Leddy, Percy A., Dir., Student Health Dept., University of Maine, Orono (10)
Leigh, Kenneth E., 163 Court St., Portsmouth, N. H. (15)
Leighton, Adam P., 142 High St., Portland (3)
Leighton, Wilbur F., 192 State St., Portland (3)
Leiter, Laban W., 175 Vaughan St., Portland (3)
Lemaitre, Paul G., 268 Webster St., Lewiston (1)
Lenfest, Stanley R., Waldoboro (8)
Lepore, Anthony E., 72 Church St., Gardiner (6)
Lesieur, Louis C., 66 Beach St., Saco (15)
Levesque, Romeo J., Frenchville (2)
Lezberg, Joseph, 33 Beecher Park, Bangor (10)
Libby, Harold E., 310 Main St., Westbrook (3)
Lidstone, Frederick B., 117 Goff St., Auburn (1)
Lieberman, Arthur N., 180 Broadway, Bangor (10)
Lightbody, Charles H., No. Main St., Guilford (11)
Lincoln, John R., 22 Bramhall St., Portland (3)
Lincourt, Armand S., 47 Allen St., Sanford (15)
Lowenstein, George, Chebeague Island (7)
Winter Address, Aripeka, Florida
Logan, G. E. C., 131 State St., Portland (3)
Lombard, Reginald T., 793 Main St., South Portland (3)
Lord, Edwin M., 39 High St., Skowhegan (12)
Lord, Maurice E., Dees Cabins, Lake Placid, Florida (12)
Lorimer, Robert V., 148 State St., Portland (3)
Love, Robert B., 75 Main St., Gorham (3)
Lovely, David K., 46 Deering St., Portland (3)
Lubell, Moses F., Thayer Hospital, Waterville (6)
Luther, William C., West Sullivan (5)
Lynn, Geraldine, 188 Russell St., Lewiston (1)

M

MacBride, Robert G., 25 Washington St., Lubec (14)
Macdonald, Donald F., 263 State St., Bangor (10)
Macdonald, James H., 103 Main St., Kennebunk (15)
MacDougal, Wilbur E., 186 Nowell Rd., Bangor (11)
MacDougall, James A., 303 Penobscot St., Rumford (9)
Mack, Francis X., 144 State St., Portland (3)
MacVane, William L., Jr., 211 State St., Portland (3)
Madigan, John B., Houlton (2)
Magaudda, Michael M. P., 39 Old Orchard St., Old Orchard Beach (15)
Magocsi, Alexander W., York (15)
Mahaney, William F., 338 Main St., Saco (15)
Maier, Paul, 723 Congress St., Portland (3)
Maltby, George L., 31 Bramhall St., Portland (3)
Mann, David V., 47 Chestnut St., Camden (7)
Manter, Wilbur B., 1 Fern St., Bangor (10)
Marquardt, Matthias, P.O. Box 724, State Hospital, Augusta (6)
Marshall, Donald F., 142 High St., Portland (3)
Marshall, Joseph A., 177 Main St., Waterville (6)
Marsters, David W., Strong (4)
Marston, Henry E., North Anson (12)
Marston, Paul C., Kezar Falls (3)
Martel, Cyprien L., Jr., 355 Pine St., Lewiston (1)
Martin, Joseph E., 23 Water St., Livermore Falls (4)
Martin, Ralf, 58 Deering St., Portland (3)
Martin, Thomas A., 203 State St., Portland (3)
Mason, Luther S., 109 State St., Bangor (10)
Mason, Peter H., Millinocket Community Hospital, Millinocket (10)
Mathews, Hugh J., Jr., 345 Water St., Gardiner (6)
Mayo, Dana B., Route 1, Kennebunkport (15)
Matuzel, Jane, Western Maine Sanatorium, Green Mountain (1)
Mazzacane, Walter D., Old Orchard (15)
Melendy, Oakley A., 21 Western Ave., Augusta (6)
Melnick, Jacob, 333 Congress St., Portland (3)
Memmelaar, Joseph E., 54 Forest Ave., Bangor (10)
Merrill, Urban H., 13 Water St., Newport (10)
Methot, Frank P., 256 Lisbon St., Lewiston (1)
Michaud, Joseph C., 76 Main St., Waterville (6)
Miller, Clark F., 46 Madison St., Auburn (1)
Miller, George W., Norway National Bank Building, Norway (9)
Miller, Hudson R., 11 Turner St., Auburn (1)
Miller, Thor, 752 Main St., Westbrook (3)
Milliken, Howard H., 105 Second St., Hallowell (6)
Millington, Paul A., 44 Mountain St., Camden (7)
Mills, Nathaniel, Harrison (9)
Millstein, Hyman, Southwest Harbor (5)
Miragliuolo, Leonard G., 10 Maple St., Bangor (10)
Mitchell, Hazen C., Calais (14)
Mitchell, Roscoe L., 97 Water St., Hallowell (6)
Mock, George F., Arthur R. Gould Memorial Hospital, Presque Isle (2)
Monkhouse, William A., 131 State St., Portland (3)
Moore, Beryl M., Oxford (9)
Moore, Roland B., 201 State St., Portland (3)
Moore, Valentine J., Thayer Hospital, Waterville (6)
Morin, Gerard L., 460 Main St., Lewiston (1)
Morin, Harry F., 905 Middle St., Bath (8)
Morissette, Russell A., 460 Main St., Lewiston (1)
Morrell, Arch H., 67 Sewall St., Augusta (6)
Morrison, Alvin A., 57 Deering St., Portland (3)
Morrison, James B., Main St., Ashland (2)
Morse, Edward K., 22 White St., Rockland (7)
Moulton, Albert W., 180 State St., Portland (3)
Moulton, Albert W., Jr., 180 State St., Portland (3)
Moulton, Gardner N., 5 Grove St., Bangor (10)
Moulton, John H., Rangeley (4)
Moulton, Marion A. K., West Newfield (15)
Munce, Richard T., 262 State St., Bangor (10)
Mundie, Perley J., 111 Main St., Calais (14)
Murphy, John J., 84 Portland St., South Berwick (15)
Murphy, Norman B., 31 Western Ave., Augusta (6)
Myer, John C., 2 School St., Sanford (15)

Mc

McAdams, William R., 723 Congress St., Portland (3)
McCann, Eugene C., 49 Deering St., Portland (3)
McCormack, Roland L., 12 Bridge St., Norway (9)
McCoy, Thomas C., 17 College Ave., Waterville (6)
McCrum, Philip H., 188 State St., Portland (3)
McEvoy, Charles D., Jr., 316 State St., Bangor (10)
McFarland, Edward A., 159 Maine St., Brunswick (3)
McIntire, Barron F., Jr., 13 W. Elm St., Yarmouth (3)
McKay, Roland L., 57 Eastern Ave., Augusta (6)
McLaughlin, Clarence R., 345 Water St., Gardiner (6)
McLaughlin, Ivan E., 345 Water St., Gardiner (6)
McLean, E. Allan, 29 Deering St., Portland (3)
McLellan, William A., 87 Chestnut St., Camden (7)
McManamy, Eugene P., 209 State St., Portland (3)
McMichael, Morton, 73 Deering St., Portland (3)
McNamara, Wesley C., 8 Lee St., Lincoln (10)
McNeil, Harry D., 81 Silver Rd., Bangor (10)
McQuillan, Arthur H., 177 Main St., Waterville (6)
McQuoid, Robert M., 39 Columbia St., Bangor (10)
McWethy, Wilson H., 31 Western Ave., Augusta (6)

N

Nadeau, J. Paul, 91 Pine St., Lewiston (1)
Nadeau, Lawrence A., 92 Pine St., Lewiston (1)
Nangle, Thomas P., West Paris (9)
Nelson, Chesley W., 121 Main St., Norway (9)
Nelson, Isaac, 1925 Quentin Rd., Brooklyn 29, N. Y. (11)
Nesin, Bourcard, 10 Water St., Howland (10)
Newcomb, Charles H., Clinton (6)
Nichols, Arthur A., Edgecomb (8)
Nickerson, Norman H., Greenville (11)
Noyes, H. Louella, 114 Congress St., Rumford (9)

O

O'Connor, Francis J., 4 Woodlawn St., Augusta (6)
O'Crowley, Clarence R., South Bristol (8)

O'Donnell, Eugene E., 32 Deering St., Portland (3)
Oestrich, Alfred, 20 Congress St., Rumford (9)
Ohler, Robert L., Veterans Administration, Togus (6)
O'Kane, Francis R., 122 Penobscot Ave., Millinocket (10)
Olmsted, Burton L., 73 Deering St., Portland (3)
O'Meara, Edward S., Eastern Memorial Hospital, Ellsworth (5)
Onat, Mustafa V., Main St., Port Clyde (7)
Orbeton, Everett A., 131 State St., Portland (3)
Osborne, John R., Veterans Administration, Togus (2)
Osher, Harold L., 131 Chadwick St., Portland (3)
Osler, Jay K., 74 Birch St., Bangor (10)
O'Sullivan, William B., 331 Main St., Saco (15)
Ottum, Alvin E., 150 State St., Portland (3)
Ouellette, Marcel D., 114 Main St., Sanford (15)

P

Page, Rosario A., 18 Sweden St., Caribou (2)
Palmer, Thomas H., Jr., 316 State St., Bangor (10)
Parcher, George, 75 Main St., Ellsworth (5)
Parker, James M., 18 Bramhall St., Portland (3)
Parrot, Hadley, 74 Somerset St., Bangor (10)
Patane, Joseph M., 256 Alfred St., Biddeford (15)
Patterson, James, 1 Bay Rd., South Portland (3)
Pawle, Robert H., Steep Falls (3)
Pearson, Henry, Brownfield (9)
Pearson, John J., 100 So. Main St., Old Town (10)
Penta, Walter E., 316 Woodford St., Portland (3)
Perkins, Niles L., Jr., Oxford Paper Co., Rumford (9)
Petterson, Herman C., Chebeague Island (3)
Pfeiffer, Paul H., 14 Gilman St., Waterville (6)
Philbrick, Maurice S., 292 Water St., Skowhegan (12)
Pines, Philip, Maine St., Limestone (2)
Platt, Anna, Rockport (7)
Winter Address—110 Manatee Rd., Belleair, Clearwater, Fla.
Plimpton, Jay R., 283 Water St., Augusta (6)
Plunmer, Albert W., Lisbon Falls (1)
Pogue, Jackson S., 529 Gilmore Ave., Trafford, Pa. (3)
Polisner, Saul R., 143 Vaughan St., Portland (3)
Pomerleau, Ovid F., 177 Main St., Waterville (6)
Pomerleau, Rodolphe J. F., 27 Main St., Waterville (6)
Pooler, Harold A., State Hospital, Bangor (10)
Porter, Edward C., 489 State St., Bangor (10)
Porter, Joseph E., 22 Bramhall St., Portland (3)
Poulin, Albert A., Sisters Hospital, Waterville (6)
Poulin, James E., 177 Main St., Waterville (6)
Powell, Ralph C., Damariscotta (8)
Pratt, George L., 7 Main St., Farmington (4)
Pratt, Harold S., Livermore Falls (1)
Pratt, Loring W., 177 Main St., Waterville (6)
Price, Richard D., 8 Burns Ave., Caribou (2)
Priest, Maurice A., 108 South Stone St., Deland, Fla. (6)
Pritham, Fred J., Greenville Junction (11)
Proctor, Ray A., 60 Vesta Circle, Caribou (2)
Proctor, Thomas E., Boothbay Harbor (8)
Provost, Helen C., 48 Green St., Augusta (6)
Provost, Pierre E., 48 Green St., Augusta (6)
Purinton, Watson S., 15 Ohio St., Bangor (10)
Purinton, William A., 15 Ohio St., Bangor (10)

R

Radebaugh, John F., Jr., 81 Parkview Ave., Bangor (10)
Rand, Carleton H., 219 Oak St., Lewiston (1)
Read, Seth H., 15 Church St., Belfast (13)
Reed, Howard L., 68 Water St., Skowhegan (12)
Reed, James W., 18 Main St., Farmington (4)
Reel, John J., 59 So. Front St., Richmond (6)
Reeves, Edward L., 179 Sabattus St., Lewiston (1)
Reeves, Helene M., 179 Sabattus St., Lewiston (1)
Renwick, Ward J., 102 Goff St., Auburn
Winter Address—Colonial Hotel, St. Petersburg, Fla. (1)
Reynolds, Arthur P., 420 Main St., Presque Isle (2)
Reynolds, John F., 216 Main St., Waterville (6)
Reynolds, Ralph L., 216 Main St., Waterville (6)
Richards, Carl E., 34 Winter St., Sanford (15)
Richards, Lee W., Jr., 21 Western Ave., Augusta (6)
Richardson, C. Earle, 3 Cumberland St., Brunswick (3)
Rideout, Samuel, 3 Green St., Fort Fairfield (2)
Ridlon, Magnus F., 99 Broadway, Bangor (10)
Risley, Edward H., 27 College Ave., Waterville (6)
Robert, Roger J. P., 331 Main St., Saco (15)
Robertson, George J., 33 College Ave., Waterville (6)
Robinson, Carl M., Waite's Landing, R. 99, Portland (3)
Rock, Daniel A., 477 Main St., Lewiston (1)
Ross, H. Danforth, 34 Winter St., Sanford (15)
Ross, Maurice, 372 Main St., Saco (15)
Roussin, William T., 48 Bacon St., Biddeford (15)
Rowe, Daniel M., Kirkwood Rd., Scarborough Beach (3)
Rowe, Gunther H., 42 Main St., Livermore Falls (4)
Rowe, Linwood M., 11 Franklin St., Rumford (9)
Roy, Leopold O., 54 Pine St., Lewiston (1)
Royal, Albert P., Jr., 82 Maine Ave., Rumford (9)
Ruhlin, Carl W., 205 French St., Bangor (10)
Runyon, William N., 283 Water St., Augusta (6)
Russell, Daniel F. D., Leeds (1)
Russell, Robert F., Penobscot (5)

S

Sager, George F., 18 Bramhall St., Portland (3)
Sampson, Arthur H., Damariscotta (8)
Sanders, Stephen W., 120 Main St., Winthrop (6)
Sanger, George M., Eastern Memorial Hospital, Ellsworth (5)
Santoro, Domenico A., 43 Deering St., Portland (3)
Saunders, Allen I., State Hospital, Augusta (6)
Savage, Richard L., 4 Elm St., Fort Kent (2)
Sawyer, Howard P., Jr., 22 Bramhall St., Portland (3)
Schmidt, Lorrimer M., Veterans Administration, Togus (6)
Schubert, Everett D., Federal St., Wiscasset (8)
Schwartz, Carol, 35 Deering St., Portland (3)
Scolten, Adrian H., 32 Deering St., Portland (3)
Scribner, Herbert C., 259 Union St., Bangor (10)
Sears, Harold G., Main St., Woodland (14)
Selvage, Irving L., Jr., 22 Bramhall St., Portland (3)
Sewall, Elmer M., 14 Park St., Orono (10)
Sewall, Kenneth W., 2 School St., Waterville (6)
Shannon, Charles E. G., 9 Park St., Waterville (6)
Shapero, Benjamin L., 73 Broadway, Bangor (10)
Shapiro, Morrell, 29 Deering St., Portland (3)
Shapleigh, Edward E., Kittery (15)
Shelton, M. Tieche, 21 Western Ave., Augusta (6)
Shems, Albert, 487 Main St., Lewiston (1)
Shields, Daniel R., 369 Main St., Lewiston (1)
Shields, Victor H., North Haven (7)
Shippee, James N., 122 Main St., Winthrop (6)
Shubert, Alice J., 317 State St., Bangor (10)
Shubert, William M., 317 State St., Bangor (10)
Shurman, Hans, 10 Spring St., Dexter (10)
Sidwell-Thompson, Doris M., P. O. Box C, Pownal (3)
Simpson, Margaret R., Bureau of Health, State House, Augusta (6)
Skillin, Charles E., 690 Congress St., Portland (3)
Skillin, Frederick W., 69 So. High St., Bridgton (3)
Skinner, Peter S., 112 Ohio St., Bangor (10)
Sleeper, Francis H., P.O. Box 724, State Hospital, Augusta (6)
Small, Foster C., 169 High St., Belfast (13)
Smith, Carroll H., Jr., Box 967, Presque Isle (2)
Smith, Edgar J., 1 Park St., Fairfield (12)
Smith, Gerald R., Ogunquit (15)
Smith, Henry F., Jackman Station (12)
Smith, Hugh A., Eastern Maine General Hospital, Bangor (10)
Smith, Jacob, 118 Front St., Bath (8)
Smith, Joseph L., 118 Front St., Bath (8)
Smith, Kenneth E., Veterans Administration, Togus (6)
Smith, Margaret S., Box 967, Presque Isle (2)
Somerville, Robert B., 473 Main St., Presque Isle (2)
Somerville, Wallace B., Mars Hill (2)
Sommerfeld, Kurt A., 5 Brunswick Ave., Gardiner (6)
Soule, Gilmore W., 22 White St., Rockland (7)
Southern, Edward M., 34 Gilman St., Waterville (6)
Sowles, Horace K., R. F. D. 1, Cumberland Center (3)

Spear, William, 107 Main St., Lisbon Falls (1)
Spellman, Francis A., Veterans Administration, Togus (6)
Spencer, Jack, 31 Deering St., Portland (3)
St. Pierre, Charles E., 51 Main St., Van Buren (2)
Stanhope, Charles N., Dover-Foxcroft (11)
Stanwood, Harold W., 23 Walker St., South Paris (9)
Stebbins, Arthur P., 131 State St., Portland (3)
Steele, Charles W., 472 Main St., Lewiston (1)
Stein, Ernest W., 72 Main St., Pittsfield (13)
Stephenson, Richard B., 131 State St., Portland (3)
Sterlin, Andre, 10 High St., Fort Kent (2)
Stetson, Rufus E., Damariscotta (8)
Stevens, Carl H., 18 Franklin St., Belfast (13)
Stevens, Theodore M., 148 State St., Portland (3)
Stewart, Delbert M., 15 Main St., South Paris (9)
Stickney, Laura B., 10 Cutts Ave., Saco (15)
Stinchfield, Allan J., 16 E. Chestnut St., Augusta (6)
Stinchfield, Walter S., Court St., Skowhegan (12)
Stitham, Linus J., 50 Main St., Dover-Foxcroft (11)
Storer, Daniel P., 12 Deering St., Portland (3)
Stott, Ardenne A., 117 Front St., Bath (8)
Strout, Warren G., 205 French St., Bangor (10)
Stuart, Ralph C., Guilford (11)
Sturtevant, Vaughn R., 33 College Ave., Waterville (6)
Sullivan, George E., R. F. D. 1, Fairfield (12)
Sullivan, John R., 340 North Main St., Brewer (10)
Suyama, Eji, 78 W. Main St., Ellsworth (5)
Sweatt, Linwood A., 48 Drummond St., Auburn (1)
Swett, Clyde I., 18 Sherman St., Island Falls (2)
Sylvester, Stanley B., 1377 Washington Ave., Portland (3)
Szendey, Andrew M., 26 Gray St., Madison (12)

T

Tabachnick, Henry M., 110 Park Ave., Portland (3)
Tashiro, Sabro, U. S. Veterans Administration Hospital, Batavia, N. Y., (6)
Taylor, H. Lewis, 25 Church St., Dexter (10)
Taylor, Paul E., 9 Wentworth St., Kittery (15)
Taylor, William F., Providence Ave., Falmouth Foreside, R. 99, Portland (3)
Tchao, Jou S., 82 Pine St., Lewiston (1)
Telfeian, Alphonse, 47 Morse St., Portland (10)
Temple, George L., 18 Franklin St., Belfast (13)
Tetreau, William J., 131 Chadwick St., Portland (3)
Thacher, Henry C., 11 Turner St., Auburn (1)
Thaxter, Langdon T., Route 100, Portland (3)
Thegen, W. Edward, Elm St., Bucksport (5)
Theriault, Louis L., 197 Center St., Old Town (10)
Thomas, Philip B., 205 French St., Bangor (10)
Thompson, Cecil F., Dodge Rd., Phillips (4)
Thompson, Philip P., Jr., 704 Congress St., Portland (3)
Tibbetts, Otis B., 33 Court St., Auburn (1)
Timberlake, Ralph M., Jr., Central Maine General Hospital, Lewiston (1)
Titherington, John B., 209 State St., Portland (3)
Todd, Albert C., 410 South Main St., Brewer (10)
Torrey, Marcus A., 75 State St., Ellsworth (5)
Torrey, Raymond L., Main St., Searsport (13)
Tougas, Raymond A., 8 Cumberland St., Brunswick (3)
Tounge, Harry G., Jr., 12 Union St., Camden (7)
Tousignant, Camille, 111 Pine St., Lewiston (1)
Toussaint, Leonid G., P. O. Box 9, Fort Kent (2)
Towne, Charles E., 18 Common St., Waterville (6)
Tracy, Mary J., Damariscotta (8)
Trowbridge, Mason, Jr., 142 Pine St., Bangor (5)
Turcotte, Guy N., 38 Deering St., Portland (3)
Turgeon, Raphael F., 836 Main St., Westbrook (3)
Turner, Harland G., R. F. D. 2, Norridgewock (12)
Turner, Oliver W., 42-71 78th St., Elmhurst 73, Long Island, N. Y. (6)
Twaddle, Gard W., 57 Goff St., Auburn (1)
Tze, Channam, MC 98 General Hospital, APO No. 34, c/o P. M. New York, N. Y. (1)

U

Uhrik, Joseph, Shaker Rd., Gray (3)

V

Vachon, Robert D., 34 Winter St., Sanford (15)
Valentine, John B., 49 Lincoln Ave., Gardiner (6)
Van Duyn, John, 205 French St., Bangor (10)
Van Lonkhuyzen, Maurice, 31 Bramhall St., Portland (3)
Ventimiglia, William A., 131 State St., Portland (3)
Vickers, Martyn A., 268 State St., Bangor (10)
Viger, Leopold A., 176 Elm St., Biddeford (15)
Viles, Wallace E., Turner (1)
Vogell, Frederick C., 18 Sweden St., Caribou (2)

W

Wadsworth, Richard C., 489 State St., Bangor (10)
Wagner, Samuel L., Winterport (10)
Wakefield, Robert D., Central Maine General Hospital, Lewiston (1)
Walker, George R., Main St., East Corinth (10)
Ward, John V., 131 State St., Portland (3)
Warren, H. Draper, Caribou Clinic, Caribou (2)
Wasgatt, Wesley N., 41 Talbot Ave., Rockland (7)
Waterman, Dorothy, Waldoboro (7)
Waterman, Richard, Waldoboro (7)
Weatherbee, George B., Main St., Hampden (10)
Weaver, Michael L., 32 Federal St., Brunswick (3)
Webber, Isaac M., 29 Deering St., Portland (3)
Webber, John R., Dark Harbor (2)
Webber, M. Carroll, 735 Stevens Ave., Portland (3)
Webber, Samuel R., Calais (14)
Webber, Wallace E., 297 Main St., Lewiston (1)
Webber, Wedgwood P., 376 Main St., Lewiston (1)
Weed, Laura B., Eastern Maine General Hospital, Bangor (10)
Weed, Lawrence L., Eastern Maine General Hospital, Bangor (10)
Weeks, DeForest, 158 Pleasant Ave., Portland (3)
Weisz, Hans, 196 Main St., Lincoln (10)
Wellington, J. Foster, 655 Congress St., Portland (3)
Westermeyer, Marion W., 858 Washington St., Bath (8)
Weymouth, Currier C., 83 Main St., Farmington (4)
Weymouth, Raymond E., 194 Main St., Bar Harbor (5)
White, Leland M., 11 Riverview Ave., Caribou (2)
White, Verdeil O., North Jay (4)
White, William J., 1 Mitchell Rd., South Portland (3)
Whitney, Byron V., 280 State St., Bangor (10)
Whitney, Ray L., Cape Porpoise (15)
Whittier, Alice A. S., 143 Neal St., Portland (3)
Whitworth, John E., 116 Hammond St., Bangor (10)
Wight, Donald G., 30 Mitchell Rd., South Portland (3)
Wilbur, Herbert T., Jr., Southwest Harbor (5)
Williams, Charles J., 93 Main St., Livermore Falls (1)
Williams, Edmund P., Oakland (6)
Williams, James A., 40 Pleasant St., Mechanic Falls (1)
Williams, Ralph E., Main St., Freeport (3)
Williamson, Russell G., Blue Hill Memorial Hospital, Blue Hill (5)
Wilson, C. Ivan, 40 Court St., Houlton (2)
Wilson, Harry M., 944 Middle St., Bath (8)
Wilson, Robert W., Veterans Administration, Togus (6)
Winchenbach, Francis A., 910 Washington St., Bath (8)
Wolfahrt, Eugene P., 338 Main St., Saco (15)
Wood, George W., III, 156 North Main St., Brewer (10)
Woodcock, Allan, 35 Second St., Bangor (10)
Woodcock, John A., 35 Second St., Bangor (10)
Woodman, Arthur B., Falmouth Foreside (3)
Worthing, Verla E., P. O. Box A, Thomaston (7)
Wright, LaForest J., Corinna (10)
Wyman, David S., 47 Deering St., Portland (3)

Y

Young, George E., 159 Water St., Skowhegan (12)
Young, John, Jonesport (14)

Z

Zanca, Ralph A., 86 Pine St., Lewiston (1)
Zikel, Herbert M., High St., Wilton (4)
Zolov, Benjamin, 296 Congress St., Portland (3)

Woman's Auxiliary
to the
Maine Medical Association

ANDROSCOGGIN COUNTY

Andrews, Mrs. S. L.	35 White St., Lewiston
Beaudet, Mrs. Simon C.	25 Webster St., Lewiston
Beeaker, Mrs. Vincent H.	85 Wood St., Lewiston
Beliveau, Mrs. Bertrand A.	56 Howe St., Lewiston
Beliveau, Mrs. Romeo A.	89 Pine St., Lewiston
Bernard, Mrs. Romeo A.	26 Beacon St., Lewiston
Branch, Mrs. Charles F.	69 Gamage Ave., Auburn
Carrier, Mrs. John W.	53 Campus Ave., Lewiston
Chapin, Mrs. Milan A.	237 Turner St., Auburn
Chevalier, Mrs. Paul R.	353 Pine St., Lewiston
Clapp, Mrs. Waldo A.	215 College St., Lewiston
Clapperton, Mrs. Gilbert	21 Ryder St., Lewiston
Cloutier, Mrs. Wilfrid A.	210 Sabattus St., Lewiston
Cox, Mrs. William V.	82 Gamage Ave., Auburn
Davis, Mrs. Wirt L.	14 Nelke Place, Lewiston
Fahey, Mrs. William J.	17 Frye St., Lewiston
Fishman, Mrs. Louis N.	223 Lake St., Auburn
Flanders, Mrs. Merton N.	370 Main St., Lewiston
Fortier, Mrs. Paul J. B.	Barron Ave., Lewiston
Frost, Mrs. Robert A.	108 Summer St., Auburn
Gauvreau, Mrs. Horace L.	69 Horton St., Lewiston
Giguere, Mrs. Eustache N.	98 Webster St., Lewiston
Goodwin, Mrs. Ralph A., Sr.	56 Denison St., Auburn
Green, Mrs. Ross W.	95 Whitney St., Auburn
Greene, Mrs. John P.	R.F.D. No. 2, Auburn
Greene, Mrs. Merrill S. F.	466 Main St., Lewiston
Gross, Mrs. Leroy C.	19 Goff St., Auburn
Haas, Mrs. Rudolph	484 Main St., Lewiston
Hiebert, Mrs. Joelle C., Jr.	R.F.D. No. 2, Auburn
Higgins, Mrs. Everett C.	149 College St., Lewiston
Hirshler, Mrs. Max	25 Bardwell St., Lewiston
Horsman, Mrs. Donald H.	50 Goff St., Auburn
James, Mrs. Chakmakis	47 Howe St., Lewiston
James, Mrs. John A.	R.F.D. No. 2, Auburn
Konecki, Mrs. John T.	R.F.D. No. 2, Auburn
LaFlamme, Mrs. Paul J.	Delcliff Lane, Lewiston
Lemaitre, Mrs. Paul G.	268 Webster St., Lewiston
Lidstone, Mrs. Frederick B.	R.F.D. No. 2, Auburn
Martel, Mrs. Cyprien L., Jr.	345 Pine St., Lewiston
Methot, Mrs. Frank P.	1 Bellegarde Circle, Lewiston
Miller, Mrs. Clark F.	46 Madison St., Auburn
Morin, Mrs. Gerard L.	38 Hamel St., Lewiston
Morissette, Mrs. Russell A.	69 Western Promenade, Auburn
Nadeau, Mrs. J. Paul	91 Pine St., Lewiston
Nadeau, Mrs. Lawrence A.	92 Pine St., Lewiston
Rand, Mrs. Carleton H.	166 College St., Lewiston
Renwick, Mrs. Ward J.	102 Goff St., Auburn
Shems, Mrs. Albert	487 Main St., Lewiston
Spear, Mrs. William	107 Main St., Lisbon Falls
Steele, Mrs. Charles W.	472 Main St., Lewiston
Sweatt, Mrs. L. A.	48 Drummond St., Auburn
Thacher, Mrs. Henry C.	Upper Turner St., Auburn
Tibbetts, Mrs. Otis B.	R.F.D. No. 2, Auburn
Timberlake, Mrs. Ralph M., Jr.	24 Dexter Ave., Auburn
Twaddle, Mrs. Gard W.	57 Goff St., Auburn
Wakefield, Mrs. Robert D.	18 White St., Lewiston
Webber, Mrs. Wedgwood P.	376 Main St., Lewiston
Zanca, Mrs. Ralph A.	405 Center St., Auburn

AROOSTOOK COUNTY

Albert, Mrs. Armand	Main St., Van Buren
Aungst, Mrs. Melvin R.	Fort Kent
Boone, Mrs. Storer W.	Third St., Presque Isle
Brown, Mrs. Stephen S.	Mars Hill
Burr, Mrs. Charles G.	90 Court St., Houlton
Carton, Mrs. Arthur K.	7 Park St., Houlton
Denison, Mrs. John D.	105 Brunswick Ave., Gardiner
Faucher, Mrs. Francois J.	Grand Isle
Graves, Mrs. Robert A.	3 Green St., Fort Fairfield
Griffiths, Mrs. Eugene B.	Main St., Presque Isle
Harrison, Mrs. George J.	Houlton
Harvey, Mrs. Thomas G.	11 High St., Fort Fairfield
Kennedy, Mrs. Roy H.	Washburn
Kimball, Mrs. Herrick C.	Fort Fairfield
Kirk, Mrs. William V.	Eagle Lake
Mock, Mrs. George F.	33 Church St., Presque Isle
Page, Mrs. Rosario A.	Riversbend Road, Caribou
Pines, Mrs. Philip	Limestone
St. Pierre, Mrs. Charles E.	Van Buren
Savage, Mrs. Richard L.	Fort Kent
Somerville, Mrs. Robert B.	Presque Isle
Sterlin, Mrs. Andre	Fort Kent
Swett, Mrs. Clyde I.	Island Falls
Toussaint, Mrs. Leonid G.	Fort Kent
Vogell, Mrs. Frederick C.	Pioneer Ave., Caribou
White, Mrs. Leland M.	Caribou
Wilson, Mrs. G. Ivan	102 Court St., Houlton

CUMBERLAND COUNTY

Agan, Mrs. Robert W.	3 Rocky Hill Rd., Cape Elizabeth
Ansell, Mrs. Harvey B.	136 Baxter Blvd., Portland
Aranson, Mrs. Albert	177 Caleb St., Portland
Asali, Mrs. Louis A.	Kirkwood Rd., Scarborough
Asherman, Mrs. Edward G.	Falmouth Rd., Falmouth
Babalian, Mrs. Leon	Surf Rd., Cape Cottage
Baldwin, Mrs. Warren C.	Andrews Rd., Falmouth Foreside
Bennett, Mrs. Eben T.	Shore Rd., Cape Elizabeth
Bidwell, Mrs. Robinson L.	Casco Ter., Falmouth Foreside
Bishoffberger, Mrs. John M.	Naples
Blaisdell, Mrs. Elton R.	35 Penrith Rd., Portland
Bowman, Mrs. Peter W.	16 E. Main St., Yarmouth
Branson, Mrs. Sidney R.	Gray Rd., South Windham
Broggi, Mrs. Frank S.	18 Neal St., Portland
Brown, Mrs. Luther A.	13 Deering St., Portland
Burnett, Mrs. Claude A.	Delano Park, Cape Elizabeth
Burrage, Mrs. William C.	304 Spring St., Portland
Capron, Mrs. Charles W.	Hunnewell Rd., Scarborough
Casey, Mrs. William L.	146 Clinton St., Portland
Clark, Mrs. Frederick B.	State Rd., Falmouth Foreside
Colby, Mrs. Edward W.	44 Bancroft St., Portland
Cole, Mrs. Donald P.	55 Cottage Farms Rd., Cape Elizabeth
Crane, Mrs. Lawrence	265 Western Promenade, Portland
Cummings, Mrs. George O.	583 Shore Rd., Cape Elizabeth
Cummings, Mrs. George O., Jr.	Orchid Rd., Cape Elizabeth
Curtis, Mrs. Harry L.	45 Wellington Rd., Portland
Darche, Mrs. Albert A.	782 Main St., Westbrook
Davies, Mrs. Lloyd G.	Fryeburg
Dooley, Mrs. Francis M.	53 Deering St., Portland
Douphinett, Mrs. Otis J.	Maple Ave., Scarborough
Drake, Mrs. Emerson H.	State Rd., Cumberland Foreside
Drake, Mrs. Eugene H.	County Rd., South Gorham
Drummond, Mrs. Joseph B.	Ship Channel Rd., South Portland
Dunham, Mrs. Carl E.	1122 Washington Ave., Portland
Dyhrberg, Mrs. Norman E.,	331 Main St., Cumberland Mills
Eppinger, Mrs. Ernest	52 Belmont St., Portland
Ferguson, Mrs. Franklin F.	Surf Rd., Cape Cottage
Fish, Mrs. Nicholas	State Rd., Cumberland Foreside
Fogg, Mrs. Philip S.	173 Pleasant Ave., Portland
Fox, Mrs. Francis H.	83 West St., Portland
Gates, Mrs. Clifford	Flaggy Meadow Rd., Gorham
Geer, Mrs. Charles R.	212 Vaughan St., Portland
Geer, Mrs. George I., Sr.	299 Woodford St., Portland
Geer, Mrs. George I., Jr.	58 Clifford St., South Portland
Gehring, Mrs. Edwin W.	284 Ocean Ave., Portland
Gibbons, Mrs. John F.	20 Elmwood Rd., Cape Elizabeth
Gilbert, Mrs. Frank Y.	102 Emery St., Portland

Glassmire, Mrs. Charles R. 65 Drew Rd., South Portland
Goduti, Mrs. Richard J. Route No. 99, Portland
Good, Mrs. Philip G. 126 Fickett St., South Portland
Hallett, Mrs. George W., Jr. Shore Rd., Cape Elizabeth
Haney, Mrs. Oramel 74 Deering St., Portland
Hanley, Mrs. Daniel F. 58 Federal St., Brunswick
Hawkes, Mrs. Richard S. 174 Longfellow St., Portland
Heifetz, Mrs. Ralph 58 Coyle St., Portland
Hinckley, Mrs. Harris Shore Rd., Cape Elizabeth
Holt, Mrs. C. Lawrence State Rd., Falmouth Foreside
Hudson, Mrs. Henry A. 11 Gage St., Bridgton
Ives, Mrs. Howard R. 56 Bowdoin St., Portland
Jacobson, Mrs.Payson B. 295 Brighton Ave., Portland
Johnson, Mrs. Albert C. Shore Acres, Cape Elizabeth
Johnson, Mrs. Oscar R. 18 Deering St., Portland
Lape, Mrs. C. Philip 132 Chadwick St., Portland
Lincoln, Mrs. John R. Route 3, Cumberland Center
Logan, Mrs. G. E. Clifford
Rt. No. 99, Shore Line Dr., Falmouth Foreside
Lorimer, Mrs. Robert V. 1 Ocean Rd., South Portland
Lovely, Mrs. David K. 52 Berkeley St., Portland
Mack, Mrs. Francis X. 1473 Westbrook St., Portland
MacVane, Mrs. William L., Jr. 25 Storer St., Portland
Maltby, Mrs. George L. Bramhall Field, Falmouth Foreside
Marshall, Mrs. Donald F. Surf Rd., Cape Cottage
Martin, Mrs. Ralf Merrill Rd., Falmouth
Martin, Mrs. Thomas A. 1415 Forest Ave., Portland
Monkhouse, Mrs. William A. 29 Bowdoin St., Portland
Morrison, Mrs. Alvin A. 165 Glenwood Ave., Portland
Moulton, Mrs. Albert W., Jr. 97 Vaughan St., Portland
Moulton, Mrs. W. Bean 29 Longfellow St., Portland
McCann, Mrs. Eugene C. 4 Woodmont St., Portland
McCrum, Mrs. Philip H. 15 Fairlawn Ave., South Portland
McLean, Mrs. E. Allan Foreside Rd., Falmouth Foreside
McMichael, Mrs. Morton Windham Hill, Windham
Nichols, Mrs. Estes 59 West St., Portland
O'Donnell, Mrs. Eugene E.
12 Cottage Farms Rd., Cape Elizabeth
Olmsted, Mrs. Burton L. 86 Oakhurst Rd., Cape Elizabeth
Orberton, Mrs. Everett A. 45 Channell Rd., South Portland
Osher, Mrs. Harold L. 131 Chadwick St., Portland
Ottum, Mrs. Alvin E. Falmouth Rd., Falmouth
Pawle, Mrs. Robert H. Steep Falls
Penta, Mrs. Walter E. 316 Woodford St., Portland
Petterson, Mrs. Herman C. Chebeague Island
Porter, Mrs. Joseph E. Falmouth Rd., R.F.D. 4, Portland
Pudor, Mrs. G. A. 15 Sheffield St., Portland
Sager, Mrs. George F. Rock Hill, Shore Rd., Cape Elizabeth
Sapiro, Mrs. Howard M. 44 Pitt St., Portland
Selvage, Mrs. Irving L., Jr. 88 Ivie Rd., Cape Elizabeth
Shanahan, Mrs. William H. 1231 Forest Ave., Portland
Shapiro, Mrs. Morrill 95 Caleb St., Portland
Skillin, Mrs. Charles E. 119 Neal St., Portland
Spencer, Mrs. Jack Route No. 99, Portland
Stebbins, Mrs. Arthur P. 996 Sawyer St., So. Portland
Stephenson, Mrs. Richard B.
12 Woodland Rd., Cape Elizabeth
Storer, Mrs. Daniel P. 108 Fessenden St., Portland
Sylvester, Mrs. Allan W. 396 Ocean Ave., Portland
Sylvester, Mrs. Stanley B. 1346 Westbrook St., Portland
Tabachnick, Mrs. Henry M. 110 Park Ave., Portland
Taylor, Mrs. William F. Providence Ave., Falmouth Foreside
Tetreau, Mrs. William J. 5 Runnells St., Portland
Thaxter, Mrs. Langdon T.
Route No. 100, Cumberland Foreside
Thompson, Mrs. Philip P., Jr.
7 Ship Channel Rd., So. Portland
Titherington, Mrs. John B. Brook Rd., West Falmouth
Ventimiglia, Mrs. William A. 5 Bartley Ave., Portland
Webber, Mrs. Isaac M. Penrith Rd., Portland
Weeks, Mrs. DeForest 158 Pleasant Ave., Portland
Wellington, Mrs. J. Foster 396 Brighton Ave., Portland
White, Mrs. William J. 1 Mitchell Rd., South Portland
Wight, Mrs. Donald G. 30 Mitchell Rd., South Portland
Woodman, Mrs. George M. 826 Main St., Westbrook
Zolov, Mrs. Benjamin 430 Baxter Blvd., Portland

FRANKLIN COUNTY

Bowne, Mrs. Hayes G. 9A Main St., Farmington
Brinkman, Mrs. Harry 47 Perham St., Farmington
Chase, Mrs. Philip B. Main St., Farmington
Colley, Mrs. Maynard B. Main St., Wilton
Covert, Mrs. S. Burton Kingfield
Duffy, Mrs. Wallace H. 100 Main St., Farmington
Eastman, Mrs. Charles W. 15 Millet St., Livermore Falls
Fichtner, Mrs. Paul A. 6 Pleasant St., Rangeley
Floyd, Mrs. Paul E. 2 Middle St., Farmington
Friend, Mrs. John W. 68 High St., Farmington
Marsters, Mrs. David W. Strong
Martin, Mrs. Joseph E. Livermore Falls
Pratt, Mrs. George L. Main St., Farmington
Pratt, Mrs. Harold S. 18 Church St., Livermore Falls
Reed, Mrs. James W. Main St., Farmington
Rowe, Mrs. Gunther H. 42 Main St., Livermore Falls
Thompson, Mrs. Cecil F. Phillips
Weymouth, Mrs. Currier C. Main St., Farmington

KENNEBEC COUNTY

Barnard, Mrs. John M. H. 80 Highland Ave., Gardiner
Brann, Mrs. Henry A. 38 Fairview Ave., Augusta
Crawford, Mrs. Joseph R. 6 Macomber Ave., Augusta
Dachslager, Mrs. Philip 55 Capitol St., Augusta
Daniels, Mrs. Donald H. R.R. 1, Readfield
Darlington, Mrs. Brinton T. Westwood Rd., Augusta
Fallon, Mrs. Anne 52 Lincoln St., Augusta
Fallon, Mrs. Richard N. Westwood Rd., Augusta
Farrell, Mrs. Chalmers G. 68 Central St., Gardiner
Gingras, Mrs. Adolphe J. 113 Northern Ave., Augusta
Gingras, Mrs. Napoleon J. 124 State St., Augusta
Jackson, Mrs. Elmer H. 47 Chapel St., Augusta
Lepore, Mrs. Anthony E. 76 School St., Gardiner
Mathews, Mrs. Hugh J., Jr. 75 Brunswick Ave., Gardiner
Melendy, Mrs. Oakley A. Westwood Rd., Augusta
Milliken, Mrs. Howard H. 105 Second St., Hallowell
Mitchell, Mrs. Roscoe L. 111 Western Ave., Augusta
Moore, Mrs. Arnold W. Box 724, Augusta
Morrell, Mrs. Arch H. 67 Sewall St., Augusta
Murphy, Mrs. Norman B. 19 So. Chestnut St., Augusta
McLaughlin, Mrs. Clarence R., 152 Brunswick Ave., Gardiner
McLaughlin, Mrs. Ivan E. Lewiston Rd., Gardiner
McQuillan, Mrs. Arthur H. 6 Dalton St., Waterville
McWethy, Mrs. Wilson H. 22 Sewall St., Augusta
O'Connor, Mrs. Francis J. 4 Woodlawn St., Augusta
O'Connor, Mrs. William 43 Green St., Augusta
Ohler, Mrs. Robert L. East Winthrop
Plimpton, Mrs. Jay R. 12 Blaine Ave., Augusta
Robertson, Mrs. George J. 33 College Ave., Waterville
Russell, Mrs. Walter A. 5 Chestnut St., Hallowell
Sanders, Mrs. Stephen W. 120 Main St., Winthrop
Shippee, Mrs. James N. Main St., Winthrop
Sleeper, Mrs. Francis H. Box 724, Augusta
Sommerfeld, Mrs. Kurt A. 182 Dresden Ave., Gardiner
Stinchfield, Mrs. Allan J. 6 Warren St., Hallowell
Valentine, Mrs. John B. 49 Lincoln Ave., Gardiner

KNOX COUNTY

Adams, Mrs. Lester 9 Knox St., Thomaston
Allen, Mrs. Robert L. Bear Hill, Rockport
Apollonio, Mrs. Howard L. Mechanic St., Rockport
Brouwer, Mrs. Johan 8 Mountain St., Camden
Dennison, Mrs. Frederick C. 52 Main St., Thomaston
Jameson, Mrs. C. Harold Camden
Kibbee, Mrs. Frank W. Lincolnville
Lawry, Mrs. Oram R., Jr. 96 Limerock St., Rockland
Millington, Mrs. Paul A. 44 Mountain St., Camden
Morse, Mrs. Edward K. 39 High St., Camden
McLellan, Mrs. William A. Chestnut St., Camden
Soule, Mrs. Gilmore W. 52 Gay St., Rockland
Tounge, Mrs. Harry G., Jr. 12 Union St., Camden
Wasgatt, Mrs. Wesley N. 41 Talbot St., Rockland

OXFORD COUNTY

Akerberg, Mrs. Ake Maple St., South Paris
Aucoin, Mrs. Peter B. 87 Congress St., Rumford
Dixon, Mrs. Walter G. 16 Deering St., Norway
Elsemore, Mrs. Dexter E. Dixfield
Greene, Mrs. John A. 96 Congress St., Rumford
Harper, Mrs. Harry L. 17 Main St., South Paris
Hubbard, Mrs. Roswell E. Waterford

Kadi, Mrs. Frances J.	Western Maine San., Greenwood Mountain
Lanni, Mrs. John P.	Bethel
MacDougall, Mrs. James A.	303 Penobscot St., Rumford
Miller, Mrs. George W.	Main St., Norway
Nangle, Mrs. Thomas P.	West Paris
Oestrich, Mrs. Alfred	89 Congress St., Rumford
Rowe, Mrs. Linwood M.	246 Penobscot St., Rumford

PENOBSCOT COUNTY

Adams, Mrs. Asa C.	99 Forest Ave., Orono
Adams, Mrs. Winford C.	State Rd., Holden
Ames, Mrs. Forrest	532 North Main St., Brewer
Babcock, Mrs. Edward B.	115 Wilson St., Brewer
Barrett, Mrs. Robert J., Jr.	127 Somerset St., Bangor
Blackburn, Mrs. Nelson	Winterport
Blaisdell, Mrs. William B.	Penobscot Ter., Brewer
Bridges, Mrs. Donald E.	765 Hammond St., Bangor
Brown, Mrs. Lloyd	427 Garland St., Bangor
Burke, Mrs. John E.	353 State St., Bangor
Burke, Mrs. Paul W.	Newport
Butler, Mrs. Harry	77 Broadway, Bangor
Chason, Mrs. Sidney	173 Pine St., Bangor
Clement, Mrs. James D., Jr.	99 Broadway, Bangor
Clough, Mrs. Dexter J., 2nd	Bucksport
Cornell, Mrs. Robert C.	Forest Ave., Orono
Coulton, Mrs. Donald	326 State St., Bangor
Cutler, Mrs. Lawrence M.	33 Grove St., Bangor
Duffey, Mrs. Richard V.	76 Washington St., Brewer
Emerson, Mrs. Merritt	131 State St., Bangor
Emery, Mrs. Frederick C.	242 Cedar St., Bangor
Fergus, Mrs. Andre	247 Larkin St., Bangor
Gaillard, Mrs. Richard A.	91 Grove St., Bangor
Hall, Mrs. Walter L. H.	50 N. 4th St., Orono
Hamlin Mrs. Irvin E.	East Millinocket
Hedin, Mrs. Carl J.	Penobscot Ter., Brewer
Hill, Mrs. Allison	113 Somerset St., Bangor
Houlihan, Mrs. John S.	66 Howard St., Bangor
Irwin, Mrs. Carl W.	39 West Broadway, Bangor
Lezberg, Mrs. Joseph	33 Beecher Park, Bangor
Lieberman, Mrs. Arthur N.	180 Broadway, Bangor
Miragliuolo, Mrs. Leonard	20 Elm St., Bangor
Moulton, Mrs. Gardner N.	Main Road, Orono
Munce, Mrs. Richard T.	410 French St., Bangor
McNeil, Mrs. Harry D.	81 Silver Rd., Bangor
McQuoid, Mrs. Robert	91 Grove St., Bangor
Palmer, Mrs. Thomas H., Jr.	490 State St., Bangor
Parrot, Mrs. Hadley	74 Somerset St., Bangor
Pooler, Mrs. Harold A.	Bangor State Hospital, Bangor
Purinton, Mrs. William	134 Kenduskeag Ave., Bangor
Radebaugh, Mrs. John F., Jr.	81 Parkview Ave., Bangor
Ridlon, Mrs. Magnus F.	Main St., East Hampden
Ruhlin, Mrs. Carl W.	Hampden Highlands
Scribner, Mrs. Herbert C.	259 Union St., Bangor
Sewall, Mrs. Elmer M.	14 Park St., Orono
Shapero, Mrs. Benjamin L.	99 Norway Rd., Bangor
Shurman, Mrs. Hans	Dexter
Skinner, Mrs. Peter S.	112 Ohio St., Bangor
Strout, Mrs. Warren G.	125 Norway Rd., Bangor
Sullivan, Mrs. John R.	340 North Main St., Brewer
Taylor, Mrs. H. Lewis	Dexter
Thomas, Mrs. Philip B.	127 Maple St., Bangor
Vickers, Mrs. Martyn A.	72 West Broadway, Bangor
Walker, Mrs. George R.	East Corinth
Weisz, Mrs. Hans	Lincoln
Whitney, Mrs. Byron V.	280 State St., Bangor
Whitworth, Mrs. John E.	40 Garland St., Bangor
Woodcock, Mrs. Allan	16 Beecher Park, Bangor

PISCATAQUIS COUNTY

Bradbury, Mrs. Francis W.	Dover-Foxcroft
Carde, Mrs. Albert M.	Milo
Curtis, Mrs. John B.	Milo
Howard, Mrs. George C.	Guilford
Johnson, Mrs. James H., Jr.,	Milo
Lightbody, Mrs. Charles H.	Guilford
Nickerson, Mrs. Norman H.	Greenville
Pritham, Mrs. Fred J.	Greenville Junction
Stanhope, Mrs. Charles N.	Dover-Foxcroft
Stitham, Mrs. Linus J.	Dover-Foxcroft
Stuart, Mrs. Ralph C.	Guilford

YORK COUNTY

Anton, Mrs. Thomas	4 Fernald St., Old Orchard
Barden, Mrs. Frank W.	Bureau of Occupational Health, Jefferson City, Missouri
Cobb, Mrs. Stephen A.	23 Lebanon St., Sanford
Cuneo, Mrs. Kenneth J.	31 Summer St., Kennebunk
Dionne, Mrs. William E.	Springvale
Downing, Mrs. J. Robert	35 Summer St., Kennebunk
Drummond, Mrs. S. D.	Bar Mills
Fortier, Mrs. Andre P.	68 Foss St., Biddeford
Haas, Mrs. Carl M.	415 Main St., Saco
Hill, Mrs. Paul S., Jr.	319 Main St., Saco
Hopkins, Mrs. Herbert J.	24 Portland Ave., Old Orchard
Holland, Mrs. Edward W.	Box 564, Springvale
Houle, Mrs. M. Paul	34 Union St., Biddeford
LaFond, Mrs. Robert S.	23 Weymouth St., Saco
Lapirow, Mrs. Harry	99 Main St., Kennebunk
Lincourt, Mrs. Armand S.	263 Main St., Sanford
Macdonald, Mrs. James H.	103 Main St., Kennebunk
Magocsi, Mrs. Alexander W.	York
Mahaney, Mrs. William F.	338 Main St., Saco
Myer, Mrs. John C.	Elm St., North Berwick
O'Sullivan, Mrs. William B.	South St., Biddeford
Ouellette, Mrs. Marcel D.	7 Park St., Sanford
Richards, Mrs. Carl E.	Alfred
Robert, Mrs. Roger J. P.	38 May St., Biddeford
Ross, Mrs. H. Danforth	12 Storer St., Sanford
Ross, Mrs. Maurice	372 Main St., Saco
Smith, Mrs. Gerald R.	Ogunquit
Vachon, Mrs. Robert D.	34 Winter St., Sanford
Viger, Mrs. Leopold A.	18 Gertrude Ave., Biddeford
Wolfahrt, Mrs. Eugene P.	24 Hall Ave., Saco

MEMBERS-AT-LARGE

Larson, Mrs. Karl V.	East Machias, Washington
MacBride, Mrs. Robert G.	Lubec, Washington
Winchenbach, Mrs. Francis A.	910 Washington St., Bath, Lincoln-Sagadahoc

52084

Maine medical association.
Journal.
v.49, 1958

DATE	ISSUED TO
MAY 1 '61	Alice Hansen
JUN 25 '63	B. Herring (1866)

52084

Maine medical association. Journal.
v.49, 1958

RETURN THIS BOOK ON OR BEFORE LAST DATE STAMPED

MAY 1 '61

JUN 25 '63